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THE AMERICAN ARCHITECT

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The Outlook for 1921

Architecture
C. H. BLACKALL, F.A.I.A.

Engineering
KORT BERLÉ, M. Am. Soc. C.E.

Building Construction
LOUIS JAY HOROWITZ
President, Thompson-Starrett Company

Finance
FRANCIS N. SISSON
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Real Estate
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Craftsmanship
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VOLUME CXIX JANUARY 5, 1921 NUMBER 2350

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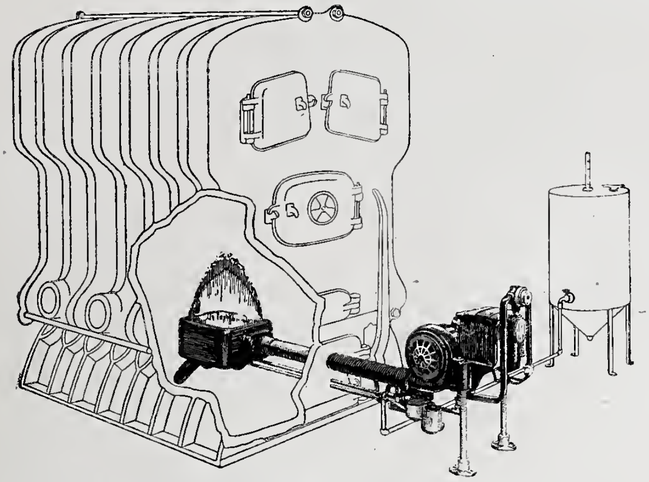

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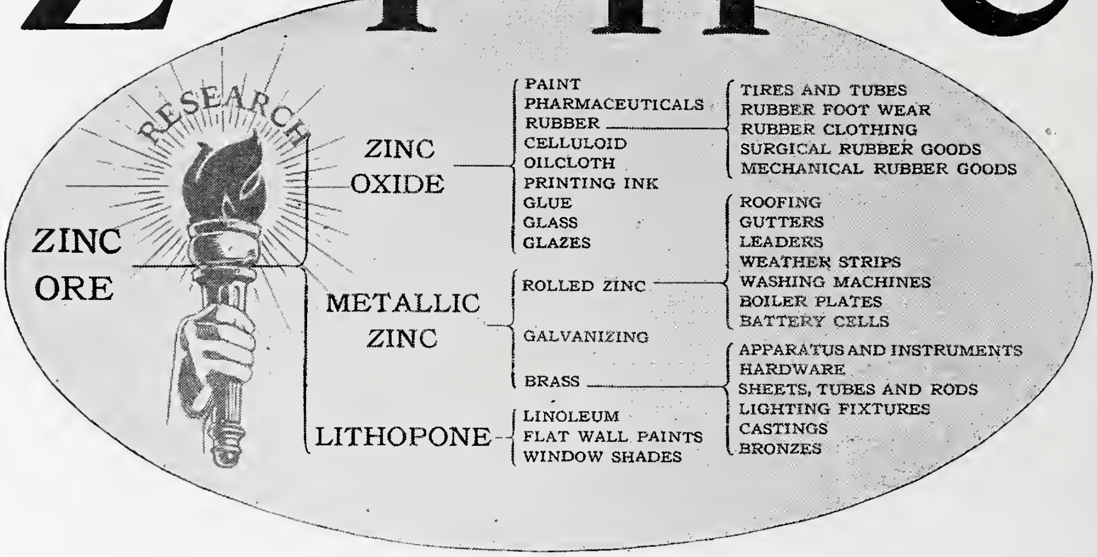

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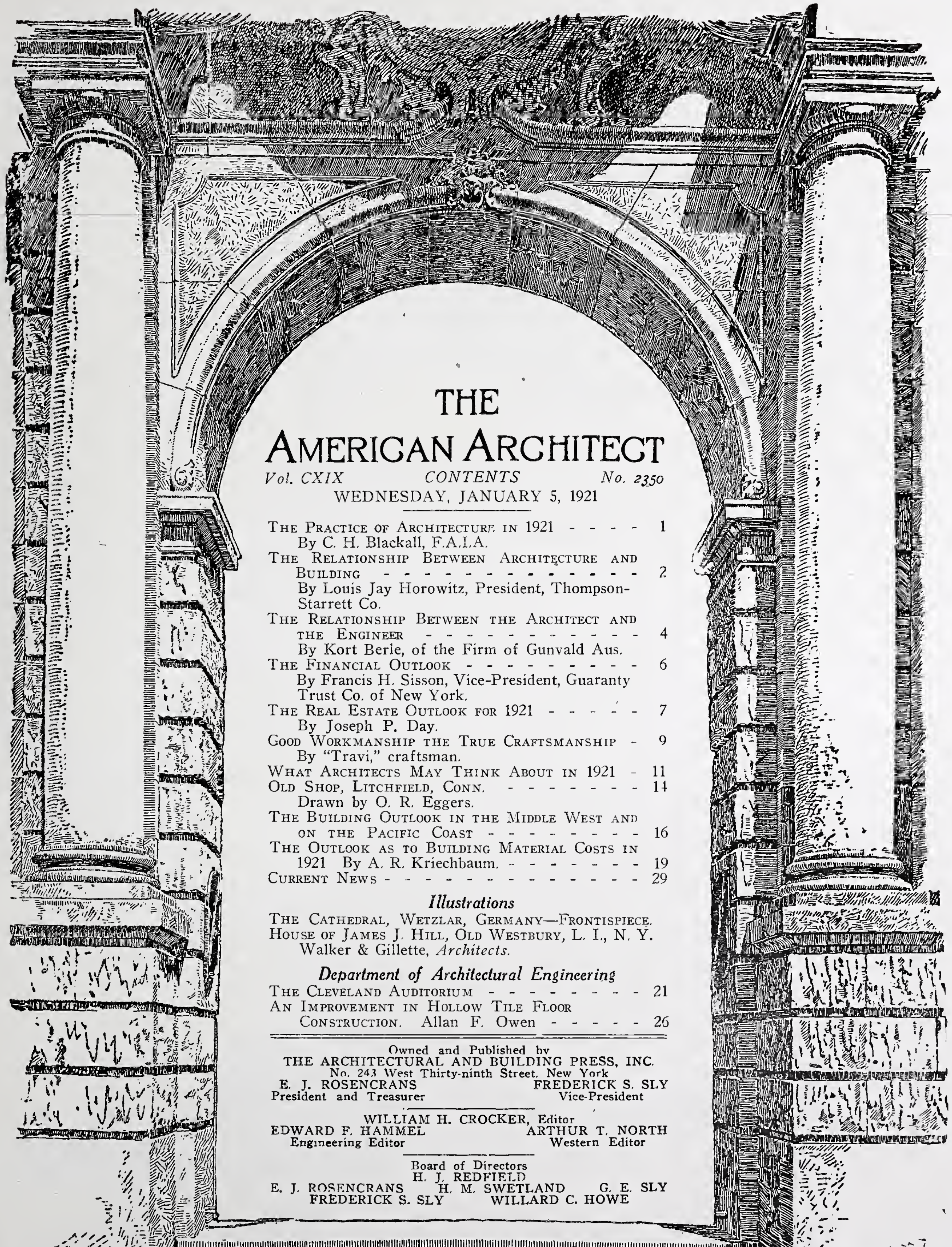

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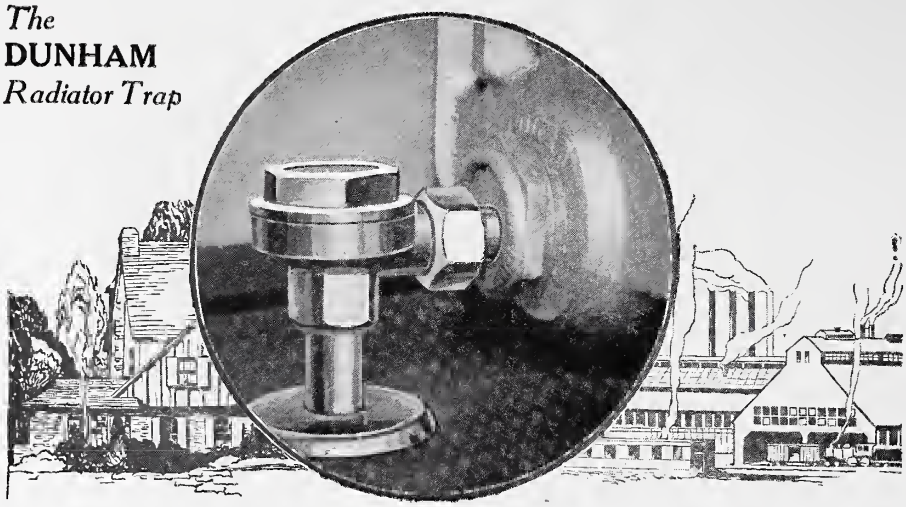

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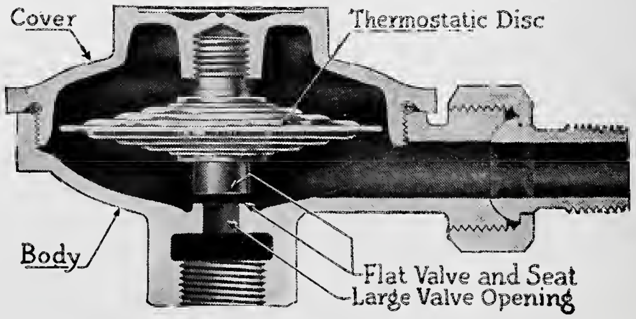

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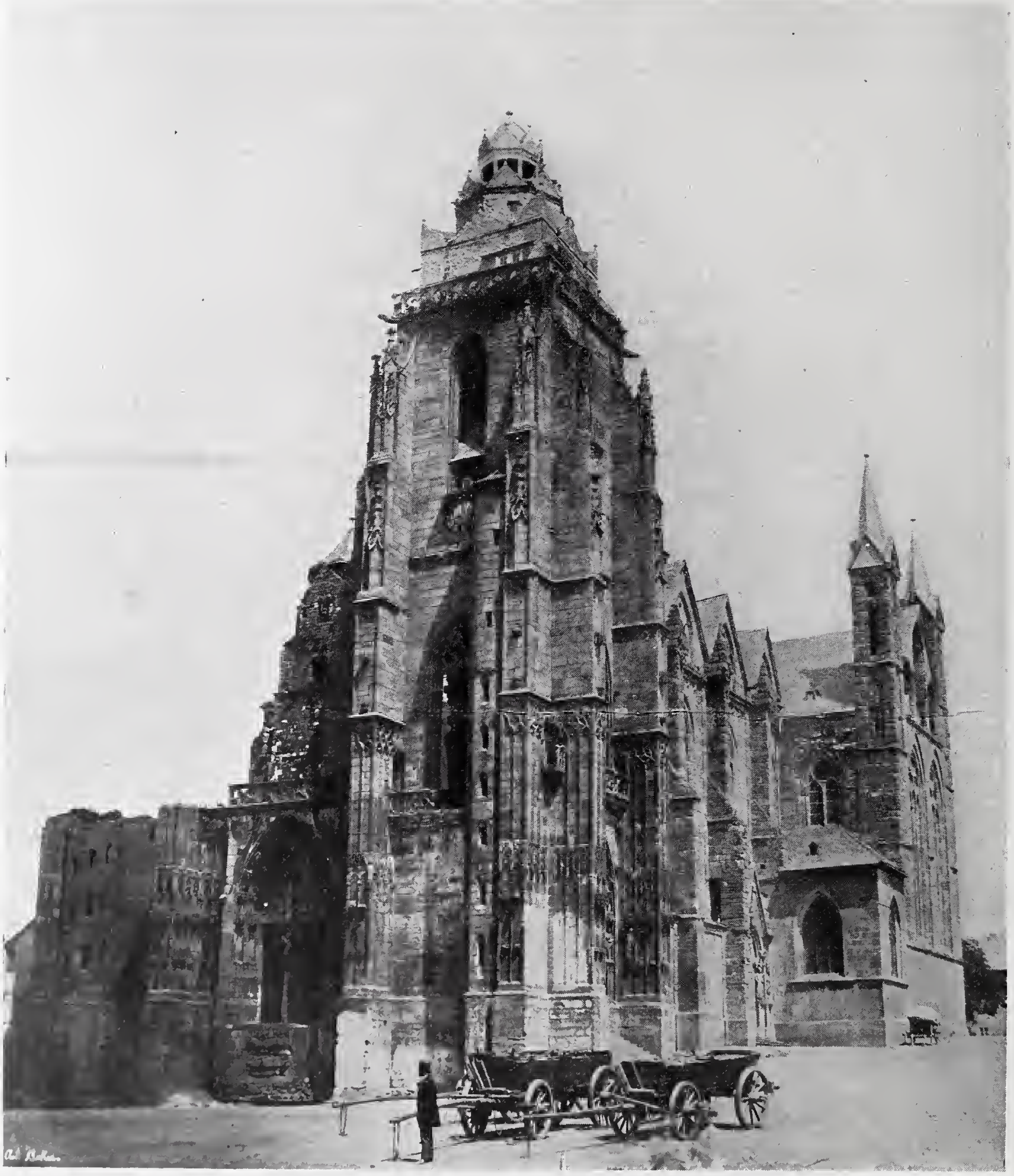

THE CATHEDRAL, WETZLAR, GERMANY

THE AMERICAN ARCHITECT

VOL. CXIX WEDNESDAY, JANUARY 5, 1921 NUMBER 2350

The Practice of Architecture in 1921

The Future as Viewed by C. H. Blackall, F. A. I. A.

IN THE AMERICAN ARCHITECT of June 5, 1918, when the hopes of the great war were at their lowest ebb, the writer ventured to make certain predictions as to what architecture would be after the war. So far not one of those predictions has come true. The much anticipated revival of business has not taken place. There have been sporadic developments, and a few of the favored ones have been very busy, but building as a whole has not flourished since the war in any general locality, and if we may make some rough approximations from general statistics, there are not as many architects in practice today as there were in 1918, and the amount of work available is very much less. It would be very easy, and perhaps quite natural, to deduce from this that the prospects are altogether disappointing, that the hopes we had cherished in the time of our stress were not justified and that the future is no more clear now that it was then. Now what is the answer?

The eclipse which the profession suffered during the war has fairly passed away. In fact, even during the latter years of the war some of the most important war work was entrusted to members of our profession, not merely the housing, which after all was simply a pot-boiler, but the more serious engineering works which assumed the magnitude of monuments; and we are as a profession in a better shape to handle our work because of the experiences which we had, and especially because of the chastening indifference which the public and the authorities evinced for several years to our high professional claims. As I see it, the profession is more nearly on a business basis than ever before. The discussions which took place in the last convention of the American Institute of Architects were on the whole so eminently practical and so free from mere professionalism that they showed how we have been forced to look at our calling, and there has been such a wide-spread interest in the business and the so-called practical side of architecture that there must be something behind it more than the mere desire of the members of the profession to get work. In fact, one of the characteristics of the attitude of the profession has been that it ought not to try to get work. Perhaps it would have been better if we had tried more earnestly and more intelligently; perhaps we would have more work and more public esteem if we were more ready to take part in the constant fight for recognition; perhaps we would stand higher if we were not so retiring. Surely when so much emphasis is placed on the manner of doing and getting our work, and on the necessity of doing our work right from the business and scientific as well as the imaginative side, it is pretty good evidence that the profession has cast away a very considerable proportion of the purely professional attitude which so hampered it during the war.

From the standpoint of carrying out our work, there is every reason to anticipate conditions will constantly improve in the next few months. Also in our offices conditions will improve. Few of the young men who entered the service of the government during the war came out of it with credit. They shared in the general let-down which affected all classes and conditions, not excepting the architects themselves, and we were forced to put up with indifferent co-operation and inefficient assistance. That is changing fast, and by spring we will have a better choice of help and more hearty co-operation than we have had for six years. That will mean better architecture. better satisfaction to our clients and a better feeling on all sides. As to what part of the work will come to us in the future, opinions may vary, but there are a number of cases which have been noted where the architect has resumed not only his past importance as a director of work, but where he has been looked to in a degree which would have been impossible before the days of the war. In one city the writer knows of a large project involving tens of millions which a few years ago would have come to the architect only after all the preliminaries were decided, but in this case the architects were called in first and were able to assist at the very beginning of the whole conception. This is only one of the many instances which are on record.

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As to how much work the architects will have, it is my belief that those who have had in the past and have shown their ability will have a great deal more; that as a result of the stress of the war period, the public will be more cautious about accepting an architect simply because he is a good fellow, or well connected, and that the profession will see more than ever before the rise of the architect, or architectural organization, controlling many millions of work, and the subordination of the men of limited experience and ability to the smaller work. This is inevitable and will mean better architecture, better execution, and in the long run better professional feeling. One architectural combination is reported as having work running up to seventy-five millions of dollars. It is a fair probability that this concern with seventy millions of work will do it better, more thoroughly, more efficiently and more economically than would have been possible at any time before the war for an architect, or group of architects, to do one-tenth part of that work. The war lessons have not all been hard. Some of them we have been able to take very much to heart, and the most valuable, as I see it, is the need of association, the impossibility of one man doing it all, and the inevitableness of the concentration of large work in the hands of the few who are best fitted for it. This may seem like restricting the hopes of the young men. On the contrary, it greatly increases the horizon for every young man who will take the pains to fit himself properly for his profession, for the opportunities of the profession are not measured by the average chance, but by the higher prizes; and with the country suffering as it does now from underbuilding in every line, with the vast accumulation of wealth in the hands of banks, trustees, insurance companies and the like, which will be readily available for legitimate building operations, I look to see a revival of building such as the world has never seen before, when we will have opportunities measured only by our capabilities, when those who are able to take, will have both hands full. But we must not, and we cannot, forget the lessons of the war, nor ignore the extent to which we must live up to the best of our profession and must treat our calling as a very exacting business, a very definite science and the highest art which man can make manifest in this world.

The Relationship between Architecture and Building

The Present Conditions and Future Prosperity of the Building Industry

By Louis Jay Horowitz, *President, Thompson-Starrett Co.*

THE Editor of The American Architect has asked me to express in this article my views as to the relationship between architect and builder, and the present condition and future prospects of the building industry. One may, at best, offer only a surmise as to what is in store for the industry in the near future, but of the absolute need of co-operation between Architect and Builder in every operation, I may be allowed to speak with sympathy and conviction.

I am unalterably opposed to the methods of some contractors who seek to dispense with the architect and who attempt to embrace in their activities both the design of a building and its execution. I am opposed to it, not from any sentimental reason for the architect, but from purely business reasons for the owner. The designing and planning of buildings is in itself a special and separate study, and the contractor who treats it as just one more addition to the great variety of his labors is not only slighting the architect's profession, but disparaging architecture itself, and needs to be reminded (loth as I am to admit it!) that architects are remembered when builders are forgotten. Sir Christopher Wren designed St. Paul's Cathedral, but who built it? However, the architect's case does not rest on tradition alone, but on efficiency. His is a cereer of true specialization, and with the constantly rising cost of space in modern cities, it is sheer folly to underestimate the services of one who devotes his talents to utilizing it to the best advantage.

Obversely, I may be permitted the privilege of saying, that the contractor cannot wisely be dispensed with by the architect. Indeed, this must be so, or the other side of the argument falls to the ground. A properly-conducted building operation demands the services of both architect and contractor, and, for either to dismiss the services of the other as superfluous, is to create a situation inherently unsound and unsafe. I will not assume to define the limits of the architect's work, but I violate no confidence when I say, that the contractor's end of the proposition, if skillfully and conscientiously handled, will provide his organization with all it can do. In these days of collusive bidding, complex transportation problems, high wages, shortage of skilled mechanics, and other economic difficulties, a contractor has enough to do to cope with his own tasks without assuming those for which he is not fitted. It is deplorable that many contractors fail either to appreciate the gravity of these problems or to overcome them, and certainly any attempt to enlarge upon their difficulties by adding architecture to the list, may be set down as due to an excess of zeal for their own interests at the expense of the client.

Still another advantage in having an architect is that he is equipped to supervise and check the work of the contractors, and to see that promises of speed and economy are kept without sacrificing the specifications. Having no financial interest in the building beyond his fee, he is detached and impartial, can be depended upon to see that justice is done to his client, and is ideally situated to act in an advisory and supervisory capacity. Obviously, when an architect takes the contractor's place, too, he loses much of that detachment and impartiality, for however zealous his dual labors as both architect and contractor his zeal can hardly be expected to include criticism of his own work! And in any event his fee is inadequate to maintain a great organization on his payroll, and without such an organization the work is bound to suffer in efficiency and to expand in cost.

Coming to the second part of my assignment, the present condition of the building industry is obviously due to three changes:

1. Universal business depression.
2. Inability in many instances to finance building prospects.
3. Disposition of owners to wait for stabilizing of material and labor costs.

The present depression is, of course, one of the aftermaths of the great conflict, and no man can say just how long it will continue. One may only hazard a guess, and risk the prophecy. But it is my personal opinion that most of the drastic processes of post-war readjustment should be over in the early part of 1921 and that we may reasonably look for a gradual recrudescence of confidence from that time on. It may be argued that the present chaos in Wall street—which is the barometer of economic cycles—hardly justifies a spirit of optimism at this time. But my own conviction is, that that is just what it does justify. The great consolation in having things so bad that they cannot be worse, is that they have got to get better. It is blackest before the dawn, and swift as have been the disillusionments of recent months, the restoration of confidence will be swifter still when it starts, for the world reacts to prosperity as its rightful heritage, but has no use for trouble. With a return of confidence money will be easier, building loans more readily available, and to employ Webster's famous figure (though times are not so bad as when he used it) "The corpse of public credit will spring to its feet."

As for building costs, I do not look for any reduction in the scale of wages; but inasmuch as labor is much more efficient today than it has been for several years past, higher wages will be absorbed by more skillful and competent workmanship. Neither do I look for any substantial reduction in the cost of building materials, though it is sure to take place in such lines as have been unduly susceptible to inflation. But I believe that many materials, such as lumber, for example, are selling well below production cost at this time on account of forced liquidation to raise cash. There is, in other words, no serious obstacle beyond the cited shortage of confidence and credit to prevent much longer a period of great building activity to take care of requirements whose figures are estimated at five billions of dollars.

The Relationship between the Architect and the Engineer

An Interview with Kort Berle, M. Am.Soc. C. E., of the Firm of Gunvald Aus Company, Consulting Engineers, New York City

AFTER a very full and free discussion with Mr. Berle of the relationship between the architect and engineer as it exists and as it should be one could not avoid carrying away the impression that if the feeling of admiration and esteem and the attitude of helpful co-operation which exists between this engineering firm and some of its clients could prevail throughout the two professions there would be no need of any discussion of this much debated subject. But Mr. Berle feels that ideal relationship does not generally exist, and for this condition he believes the architects themselves are largely to blame.

"What, in your opinion," we asked Mr. Berle, "could and should be done to improve present conditions?" His answer was readily forthcoming.

"Simply a recognition on the part of architects of the highly professional nature of engineering which makes possible the erection of structures which arouse the awe of our European visitors. The architect frequently views the structural engineer as no more than a draftsman capable only of pushing a slide rule in figuring the size of beams and getting out structural drawings. In this conception he is entirely at fault. The ability to compute loads and stresses and set forth the results by drawings is indeed a necessary attribute for the engineer engaged in building construction, but engineering is much more than this, as any architect of important structures will realize. The failure on the part of architects to recognize and properly evaluate the services of the engineer, and to accord him a place as an associate, tends to place the engineer in a position so subordinate that it is unfair. How often, event on buildings of great magnitude, is the name of the engineer mentioned? In the presentation of work in the architectural press, the engineer's name is almost invariably conspicuous by its absence. Surely the mention of the man upon whose work the stability of the structure depends would in no way detract from the credit accruing to the architect. Architects decry the practice of the daily press in so often omitting any mention of the architect's name, yet in their own press they very often deny the engineer the same recognition for which they—however justly—criticise others.

"I have often talked over this matter with prominent architects, and they feel that my attitude on this subject is absolutely correct, and that in order to foster a greater co-operation and a more friendly feeling between these brother professions, the architect must recognize the engineer as a fellow professional man, and not merely as a subordinate.

"I do not wish in any way to depreciate the splendid work of the architects, and am greatly gratified to see a constant improvement in building design."

Mr. Berle then led the writer around the office, pointing out pictures of various structures ranging from the humble warehouse to the lofty Woolworth Tower, and called my attention to their excellent architectural treatment, over which he waxed so enthusiastic that one would have thought him an artist rather than the keen, calculating engineer that he is. Probably his former connection as Chief Engineer of the Supervising Architect's office in Washington and his many years of close contact with some of our foremost architects, have much to do with his high appreciation of art in architecture.

Since in several recent instances structural engineers have been commissioned by the owners to handle the entire work—both architectural and engineering—we questioned Mr. Berle as to his views on such practices. We found him absolutely convinced that such an arrangement was all wrong. To the arrangement by which the engineer became associated with an architectural organization as a member of the firm, he saw no particular objection and felt that such combinations led to a better understanding between the members of both professions, while at the same time placing them on an absolutely equal footing as professional men. However, except where the volume of business handled by an architectural organization was very large, he expressed doubt as to the possibility of the engineer member of the firm keeping busy all the time on engineering work. "Some few architects," said Mr. Berle, "have their structural work performed in their own office by the employment of an engineer and assistants on a salary basis. It should be self-evident that such an arrangement cannot properly fulfill requirements. For it is safe to say that no engineer of ability and high standing in his profession would be satisfied to hold so subordinate a position and which, necessarily, would be very limited as to compensation and advancement as well as to scope of work."

"In my opinion," said Mr. Berle, "the best interests are served by the architect calling to his assistance a consulting engineer of the highest reputation and one in whom he can place absolute confidence. He should call upon him to co-operate in the work from its earliest preliminary stages. By such an arrangement the architect can secure the very highest type of engineering service and he is obliged to pay only for the work performed."

The importance of this close co-operation during all stages of the work, and of the architect immediately calling to the attention of the engineer any changes, he illustrated by mentioning an instance in which on a certain piece of work a 20 in. by 80 lb. I-beam was to span an entrance opening. Due to a change in the façade requiring a shallower beam, the size specified was replaced by two 12 in. by 40 lb. I-beams without the engineer's knowledge. The result was unfortunate in that the excess deflection of the beams caused very serious cracks in the stone façade. In this case 2 + 2 did not equal 4.

WE next discussed bridges and the desirability of architectural treatment on such structures. Here we found Mr. Berle placed the highest importance upon architectural co-operation. He pointed to the Hell Gate bridge as a most excellent example. But in such work he felt the order should be revised—that while in building design the architect should be the guiding head. "We must have a head to everything, you know," he said—and the engineer his co-operating associate, in the case of bridges the engineer should be the directing head, and the architect the co-operating associate. "I would be the last to depreciate the value of aesthetically designed structures, and certainly, beauty of line should be an object sought for in the design of any bridge." In the matter of bridge approaches, he felt the architect could render and has already rendered most valuable service.

He denounced the practice of some architects who seek to obtain "free" engineering services from contracting firms, such as the design of their structural work. "While this service is free to the architect," stated Mr. Berle, "it costs money to some one, and although it may be indirectly charged, the owner ultimately has to pay for it. It is just as much a violation of a proper ethical code to obtain so-called free engineering service as to endeavor to have the contractor furnish free architectural service. Both are practised, but neither is conducive to the best interests of either the owner or the two professions, and no architect can in the long run continue such methods and retain either his self-respect or his professional reputation."

Another point Mr. Berle made was the discrimination between the structural and mechanical engineer by the code of the Institute. It is here stated that the mechanical engineer should be paid a fee (on the value of all mechanical equipment) by the owner, whereas no such distinction is made in the case of the structural engineer, who must conduct his own negotiations with the architect as to the amount of his fee, which the architect must pay out of his own often-too-meager compensation.

"Why not at least put both structural and mechanical engineer in the same class?" he queried. "In justice both to the architect and the structural engineer, the Institute code should again be revised, so that *all* engineering services be paid for by the owner. This would perhaps, more than anything else, tend to make the relationship between the two professions more nearly what it should be."

In closing, Mr. Berle expressed his belief that a closer co-operation was already more evident and that the engineering profession welcomed it. The future hinges entirely on a better understanding.

The Financial Outlook

By Francis H. Sisson, *Vice-President, Guaranty Trust Company of New York.*

WITH economic conditions in this country fundamentally sound, the great need of the hour, as we turn from retrospection to face the prospects of the New Year, is constructive thinking. If faith alone has moved mountains, surely faith plus brain power can put the world on a new and stable peace basis.

We are richly endowed with all the assets for our full participation in that task and the wonderful future that lies ahead of us when the task shall have been completed—but we seem to lack faith. As we stand on the threshold of the New Year and of the door to the greatest opportunities ever opened to any nation in all history, we hesitate and doubt. Like those who cannot see the forest for the trees, we are too prone to exaggerate our liabilities and not only belittle but even ignore our vast resources.

Leadership that will direct our national thought into logical channels and more in accord with our manifest destiny is imperatively demanded as we enter 1921. And it is the duty of the Government, especially Congress, to assume that leadership.

Congress has never faced more important problems than those which confront it today. It is faced with the necessity of not only enacting constructive legislation but also of repealing obstructive laws.

While many changes should be made in our existing tax law in the interest of business progress, the first and most important step in tax revision should be the repeal of the Excess Profits tax. This tax may have been justified as a war measure, but it clearly has no place in peace-time legislation, and few, if any, tenable arguments can be advanced in favor of its retention. On the other hand, the arguments offered against it have become so familiar that it is useless to discuss them. Let it suffice to say that the inequalities resulting from its application are so great as to condemn it absolutely and fully justify its repeal at the earliest possible moment.

Although the adoption of a budget system and the introduction of a more economical system of administering the Government will materially reduce the aggregate amount of revenue required for the support of the Government, it seems likely that the rapid fall of prices which we are now experiencing and the existing depression in business will adversely affect the amount of revenue to be derived from income taxes. It will, therefore, be incumbent upon Congress to adopt a new method of taxation which will serve to make up the deficit resulting from the repeal of the Excess Profits tax.

SOME form of sales tax at a low rate seems to offer the least objectionable substitute for the Excess Profits tax, since it would be most productive and would be so widely distributed that it would not prove unduly burdensome. Such taxes will not have the tendency to encourage extravagance and penalize business efficiency, as is the case with the Excess Profits tax, and, on the other hand, from the standpoint of the Government, will not be subject to great fluctuation in periods of business depression and may be easily administered. Sales taxes can no longer be regarded as experiments, if we can rely upon the reports of the success of these taxes in Canada, the Philippines, and France, and to a limited degree in several other countries.

The great burden of war taxation has brought home to business men with added force the need of adopting as a permanent part of our machinery of Government, a well-organized budget system which will result in the placing of the financial operations of the Government on a scientific basis, thereby helping to eliminate waste and extravagance. Legislation, to this end, should be first considered by Congress.

Of equal importance, as compared with the problem of taxation, is the state of our international relations and their effect on our present and future foreign trade. In spite of the fact that more than two years have elapsed since the signing of the armistice, we are still, theoretically at least, in a state of war with Germany and her allies. No doubt exists as to the necessity for the establishment, at the earliest possible moment, of a state of peace with these countries and the strengthening of international economic relations with the whole world. While it seems probable that the present period of industrial depression is but a temporary one and that it is only a question of time before our industries will be functioning as usual, it is quite evident that our future prosperity is largely dependent upon our international trade.

Valuable service can be rendered through the enlarging of the Government's facilities for obtaining prompt and accurate information in regard to conditions existing in foreign countries which will affect our foreign trade, and the prompt distribution of this information to business concerns who can use it.

Of equal importance with the enactment of legislation necessary to placing the Government on a sound business, is efficient administration of existing laws.

Basically, as I have stated, economic conditions in the United States are absolutely sound, and what is chiefly needed to preserve our prosperity is just common-sense, constructive co-operation between Congress and the progressive business interests of the country.

The Real Estate Outlook for 1921

A Forecast for the Year by One of the Country's Most Prominent Real Estate Operators, Who Believes Architects to Be So Important in Our Complex Scheme of Civilization that They "Can Either Make or Break Real Estate Values"

By Joseph P. Day

REAL estate, not only in New York City and the so-called Metropolitan Zone, but also throughout the entire country, has had a wonderful period of prosperity during the past year, and the outlook is for continued activity during 1921. The scarcity of buildings of all kinds has had the effect of increasing valuations and also has brought this greatest form of investment into stronger hands than ever before in the history of the country.

In the first place there has been and is to-day a distinct shortage of places of residence. The war brought on a recession of building of this class of structure, except in certain industrial centres where houses were erected to accommodate the war worker. Private operations came practically to a standstill and the high prices precluded the possibility of speculative builders erecting houses for the open market.

Builders, however, went into the field of constructing war plants and large industrial buildings to meet what was then the most pressing demand, with the result that apartments and dwellings were neglected. This had the effect of increasing values, because the demand far exceeded the supply. Those operators and speculators who owned multi-family houses were obliged to raise rents in order to meet the increased cost of operation, but, unfortunately, there were some who took advantage of the situation to increase rentals beyond reason. This caused the passage of certain restrictive legislation in New York State and in some other states throughout the country, though these laws have a time limit, when it is hoped that the supply will be more nearly equal to the demand than to-day.

Students of real estate conditions throughout the country are all of the opinion that we are working into a period of construction. This will be commenced just as soon as the building material prices recede to a sufficiently low level and when labor becomes more plentiful. The trend at the present time is toward lower prices and freer labor conditions, and unless something unforeseen occurs the building move should begin within the next few months. Once building starts the market will assume a more healthy tone.

At the present time there is no particular shortage of industrial buildings, because many of the war-time plants have been built to a far larger than peace-time requirements, but this additional space will soon be absorbed by other concerns which will devote their energies toward making products precluded by war needs.

At the present time the financial interests are concerned with general business conditions, and they are only willing to make commitments where necessity is shown. The country, however, is so big and it has such recuperative powers that the money market should soon be readjusted and normal conditions again obtain.

"Booms" in real estate are not desirable. Of course money is made, but there is always a "throw-back" which interferes with the normal conduct of business and in the end hampers real progress. In the case of vacant lots, I look to see a forward movement, which will last for some time to come. When the builders again enter the field thousands and thousands of vacant lots will be absorbed, with the result that not only the actual land improved will enhance in value, but the effect will be felt by the property in the vicinity.

So far as realty in the cities is concerned, those sections which are served with transit lines will be the first to feel the benefits, and then later those more remote will come in for their proportionate share. This is of course logical, and I believe that history will repeat itself. In suburban sections, not served with real transit, those tracts which are accessible by good roads will be developed first and then the outlying sections will be marketed.

A VAST number of people have made money during the war, and I look to see an active market for country estates in all sections of the country, within reasonable distances from the city. The automobile has, of course, been a great factor in bringing these properties into the market and has made them available for this purpose, where heretofore farming was the only use to which they could be put.

I look to see the auction market in vacant lots more active than ever before. There are many reasons why this should be the case. Let us say that a large tract of land is under one ownership and is located near transit and within a reasonable distance from a city. The owner, to sell this property at private treaty, must have a large selling force, do a great deal of advertising over a long period, and go through a large amount of trouble and annoyance before he finally gets rid of his holding.

The auction market provides a means whereby he can dispose of all his property at one time, through one advertising campaign, assuming, of course, he engages an auctioneer with a sufficiently large and well equipped organization to handle his property. On the day set his property is offered and sold and then he is relieved from further responsibility. Naturally his property must have merit and the sale must be held at a time when there is a demand for that particular class of property, but my experience is that in a properly conducted campaign of education the advantages of buying at auction can be shown to those residing in the community and the result should be that the seller gets a fair price for his property and the buyer obtains a plot which will meet his requirements.

The selling of property at auction takes it out of one ownership and places it in the hands of many. This means enhancement, because it is frequently the case that where a property is long and closely held it acts as a detriment to the neighborhood, rather than an advantage.

The country is so large and the interests of the inhabitants are so varied that it is hard to lay down any fast and set rules which will apply universally. One thing is certain, however. Real estate is the finest investment in the world. The man who owns realty is his own "Board of Directors" and he has no one to account to, except the municipality. So long as he obeys the laws on the statute books he has nothing to fear, and it is only right that this should be so. If in certain sections there are unjust laws, they can be repealed and should be repealed. It is simply up to the citizens of that locality.

There are three essentials to life here on earth. The first is food, the second is clothing and the third is housing. So long as there are humans on this globe these three must be provided. So far as the third named is concerned the architect plays a most important part. He is a specialist. It is up to him to see that proper houses of all types are designed. He can either make or break real estate values. Too much importance cannot be placed on this phase of the situation. I hope that architectural schools and colleges will be encouraged and that the standard of the profession will always be kept on the present high level.

Good Workmanship the True Craftsmanship

Craftsmanship as Viewed by a Man Who Believes That the Designer of Anything Should Be as Familiar with the Best Designing That Has Been Done in the Past as He Is with His Own Collar Button, and That the Designer of Anything at All Should Be a Profound Student Before He Is Allowed Any Freedom as a Craftsman

*By "*Travi,*" Craftsman*

IN this iconoclastic age when little is held sacred and nearly everything prostituted, words are also taken liberties with, usually through ignorance, until they through common misuse lose their original meaning. As craftsmen now are makers of pantaloons and "artists" shavers of men's faces, it is rather foolish and misleading to use either of these words in connection with this very much in earnest work. Craftsmanship is just Good Workmanship, judged from the standpoint of an earlier and more capable period when workmen's ideals were higher and their work as much a matter of religion as their church; when their interest had more to do with the excellence of their handicraft and was not entirely devoted to the clock and the pay envelope.

It is work done as conscientiously, as carefully finished and in the same reverential spirit as the work done in the past. Consequently it is of no commercial value and of little interest to anybody—from a factory standpoint—as it takes too long to do and is too costly. It is done more or less in the spirit of the work done in the seventeenth century and earlier, with a striving after the directness and simplicity of methods which are necessarily brought about by working entirely by hand and "feeling" and dispensing with any mechanical shortcuts to results.

Doing this usually necessitates the going back to simple, fundamental types of tools (many of which the modern workman has forgotten the use of and does not even know the names of) and which are better suited for fashioning the different materials to be used, and to bring about results as near as possible to those achieved when the workman knew of little or no machinery and scorned to use it if he did.

In the past, during the periods when the most beautiful work was done, the tools used were very few. Now there has never in the history of the world been so many tools or such an infinite variety of them, and of machinery, and yet our world is all "messed up" with cheap and inferior performances done with both, with the exception of course of tools of precision for scientific purposes and instruments of accuracy. All of which would very likely better fulfill their missions if they were of better design.

THE primitive (for want of a better word) in man, or his human side, seems never satisfied with the things he handles in everyday life, as they have little appeal to his imagination. A man always likes a tool which he thinks he could have made himself, and sooner or later he usually tries and does do so. Man is a creative animal and to be happy must use his hands to fashion things with.

So it seems that the obvious thing lacking in modern workmanship is the human note—a slight blemish on a thing or an irregularity gives it more individuality and human interest, than something turned out "standardized," "inspected," "O. K'd" and what not. Another deplorable thing is the lack of sense of proportion generally and the small attention paid to design. Most things in the arts, crafts, industries and textiles are poorly designed, not well or strongly made. But finished to the last degree. Always *finish* with no merit beneath the skin. So everything is more or less covered with glitter of some kind—varnish, plating or dressing—"dolled up" in some way, to catch the eye of ignorance. It is a Jerry-built world we are living in at present and man's performance with his hands, of every kind, make a sorry showing and are very inferior to the best which has been done in art, architecture and workmanship of the past.

To go back to our work-bench:

All the work is done, in whatever material, whether it is mural painting or miniature, sculpture or etching in metal or glass, enamelling metal, inlaying amethyst in lead, carving alabaster or jade, ivory, carved wood or brick, pargetry, intarsia, sgraffito, scagliola, building buttressed stone walls, forging iron work, plaster work, brass, adzing wooden timber and inlaying them with lead and bone and harder and more precious woods, or mosaic or tiling, all of it and any of it is done with practically the same tools and with a selection from not more than twenty types. The material is of only incidental interest. It is the beauty and character of the design and true feeling of it, and the "tooling" of the material that is the essence. It is equally possible to put this feeling in any of the materials mentioned above.

Modern jewelry, for instance, is designed more like left-over designs for Victorian ice pitchers than like beautiful trinkets. The spirit of jewelry is not there and only the value of the material is considered. In other words, that part of the mind which "cash registers" is pleased and not the eye or the aesthetic sense, with the beauty of form and design.

The designer of anything at all should be a profound student before he is allowed any activity and should be as familiar with the best designing that has been done in the past as he is with his own collar button. But most of them do not read enough, many of them do not read at all. Otherwise the libraries and art museums would not have the atmosphere of churches or have to advertise for visitors. The art museums and public libraries, particularly the Museum Library in the Metropolitan Museum of Art, are looked upon by the public as sacred tombs of dead achievements (very "highbrow" and visited and entered by people more or less on their "tip-toes") instead of being as they are, like banks with untold riches in them to be drawn upon by anyone, whenever one feels like doing so. Museums and libraries are the friendly temples of modern times and have much of the maternal atmosphere which built up the early Christian church and made it the mighty institution and power it still is. Bless them, and all of the kindly folk connected with them.

People are apt to feel that all of the works in the museums are exceptional examples of past workmanship when really nearly everything in them with the exception of the world famous examples of paintings, sculpture, etc., by known masters, are simply the average work which every skilled workman was doing at that time. They must have had a jolly time in the doing of it—there is a noticeable sense of humor through it all.

I AM wholly in sympathy with the modern workmen and I am for them, and think they have been cheated out of all the fun of their work. I believe if they could get some of their individuality "out of their systems" by more work fashioned by their own hands, there would be more happiness and pride of work, and less unrest, as I believe every man is a potential artist or craftsman of sorts if he had the opportunity to develop, and we are mostly Cro-Magnon cave-men.

I know it is so from my own experience. I have had men who were "failures" and could do nothing in particular and were "Jacks of all trades," (which last by the way are the most intelligent persons one may meet.) They were usually "fond of tools," however, and rarely younger than fifty years old, or older. And in a month or less they were doing amazingly beautiful work. Which proves the overestimation of technique. To me one of the most impressive things in nature is an unusually intelligent man. He can almost without effort or any previous knowledge, do anything and understand almost anything. It is such men who like this work and the doing of it. The technical end of the work is usually only a matter of explanation, after which he finds his own way and individuality and becomes a master of it and not a "hand."

All of this exemplifies the spirit of this way of working and it is no "stunt" nor is there anything remarkable about it. Nor is it done in the Greenwich Village spirit of faddish amateurism and affectation. It is a man-size job done by real he-men of middle age who have a great time doing it as they know it is good and they are proud of it and feel kindly toward everybody. What is to be lamented is that it is so costly that it is only for the rich in culture, wealth and knowledge as it is done regardless of time or expense, and for that reason I repeat what I said in the beginning—"of little commercial value and of small interest to the average public."

Although as "Lo the poor Indian" used to say, "It is good medicine."

What Architects May Think About in 1921

A Summary of Numerous Conversations with Many Prominent Members of the Profession of Architecture, in Which the Subjects Treated in This Article Stood Out Above All Else

Editor's Note:

To stand as a sign-post of intellectual activity in any profession is a rather dangerous and quite often a thankless task. Dangerous because the men who compose any of the professions, and especially that of architecture, are not the sort, naturally, given to pliant submission in matters affecting their individual processes of thinking. Thankless because professional men rightly resent any arbitrary attempt to "direct their thought."

This article has been written with these factors thoroughly in mind. There has not been the slightest idea, in its writing, of assuming a "thou shalt think thus" attitude. Rather, it is an honest attempt to speak frankly and more or less fully of certain phases of the profession of architecture which appear to the Editor of this journal to be the things most important in architectural thought for the coming year. It is not an editorial, but rather, as has been stated, a summary of numerous conversations in which the things spoken of throughout the article seemed to dominate the intellectual activity of many prominent members of the profession.

WHAT are the important things for architects to think about in 1921?

This is a broad question. To answer it fully would require volume upon volume, and would really get one nowhere. A better approach to the subject, and a more satisfactory one, is to limit whatever discussion there is upon the matter to a few things which seem to be significant and which appear to be the things which architects actually will give most thought to during the year. With that view in mind, prominent architects in all parts of the country were called upon by this journal, either personally or by means of correspondence, to tell what they considered the big things for 1921. In order to get a frank expression of opinion, it was necessary to promise that no individual would be directly quoted. That promise has been strictly maintained.

One of the outstanding facts developed in this canvass of opinion had to do with the conservation of architectural resources. There was not a single architect who did not speak of this as a vital affair. It was not looked upon as a constantly recurring and therefore hackneyed subject. One architect in speaking of it, said:

"It is time we do more in this matter. All architects realize that it is a most vital affair. We have discussed it from almost every conceivable angle, but what have we actually done?"

Another member of the profession, internationally famous, spoke of the conservation of architectural resources as it applies to large cities, such as New York or Chicago. What he said was both interesting and novel, since it got away from what might be termed the usual architectural viewpoint.

"The only way you can conserve architectural resources," he said, looking down upon a section of New York which distinctly emphasized the necessity for such conservation, "is to pass a constitutional amendment defeated some years ago on excess condemnation. The law provides authority for state or city to take what it needs for highways or other public uses by condemnation, but no condemnation in excess of actual usage. The *New York Times,* when that paper was in the height of its power, editorially opposed it on the ground that it was likely to be misused and become a powerful factor for graft. That may be the price you have to pay for improvement, in a public democracy. Central Park itself was built by a notorious political administration. The Speedway similarly. Other public improvements have been done the same way. But the *Times* opposed it. If you had the right of excess condemnation the scheme suggested could have the right of resale under restriction, and when you do that, under restriction, you can restrict and *maintain* the restriction. This area where we are now was restricted. The zoning law restricted this one. By combination of condemnation of streets, and restriction laws and zoning laws, you would get an intelligent scheme which would give people a chance to live. Develop also convenient lines of traffic. In Grand Central, for instance, trains pull in and pull out by the same place. Instead, let the traffic be continuous in one direction. Manufacturers should be at the ends of the city, shops in the central portions."

There are architects who disagreed with this very practical viewpoint. Not so much with the soundness of it, as with its philosophy of accepting things as they actually exist and of making the best of them. Here is a typical opinion:

"We know that architectural resources are not being conserved, and we know that by accepting certain facts in the political make-up of cities or towns such resources could well be conserved. But why should we accept the thing that way? Why not start at the bottom and work properly? It may well be said that good comes from evil practices, but it must be remembered that the day of reckoning *must* come. I believe the only way to attack the problem is to start at the bottom. Clean house thoroughly or don't clean it."

ARCHITECTURAL resources naturally give rise to some thought concerning regional types of architecture. This, in the opinion of almost every architect whose opinions regarding architectural prospects for 1921 were obtained by this journal, is one of the big things to think about. There are those who believe that regional types can be more or less forced upon communities, in the sense that architects can definitely give a certain style or color to the architecture of those communities. Theirs is the "immediate" view which holds that regional types will develop only when architects emphatically insist upon a correlated attempt by members of the profession to put into certain communities a definite scheme of treatment. They agree with one of the world's most prominent architects that "the thing cannot be done by anything like a propaganda or fiat," and that climatic conditions of the country "would assert themselves in time." But they insist that climatic conditions governing such matters exist *now,* and that Nature having done her work, it is up to the architect to contribute his share.

Regional types, states this prominent architect, cannot be attained by fiat. In that part of the thinking world in Italy, when people lived in isolated communities, communication was to some extent interrupted. Regional development then took place, and more particularly when the regional character had become more or less crystallized. In the early days when Rome ruled the world it would be difficult to determine whether a Roman arch built in Syria or a Roman bath in England or a Roman theatre in France had been designed for the location in which it was built or for somewhere in the environs of Rome itself. But when the Roman Empire had dissolved and Italy had become a country composed of separate states each protesting its individuality, communication to some extent having been interrupted, the national views of the people of each community began to express itself along the lines of precedent with which it seems to develop its type, in accordance with its needs, and so you find in Sienna and Florence, cities not farther apart than an easy afternoon's automobile ride, a very good development of regional architecture. So one thing must have been in Florence, another in Sienna, another in Rome. It was the expression of the natural instinct of the people to some extent, and to some extent the reversion back to original regional ideas. The Lombard built as a Lombard. The Etruscan built from the standpoint of the Etruscans, although the race had disappeared. The Neapolitan built a conglomerate sort of thing that indicated the conglomerate population from which he sprung—Greece, Spain, Arabia, Rome and all the mixed races of the world. Hence the mixed and conglomerate sort of development.

IT will be so in America, and you will find that as time goes on and our 144 years of national life has developed into 500 years of national life and, let us hope, peaceful development, the individual sections of the country will come to self-consciousness and self-expression, and that new needs will create new types. That cannot be done in a month. There are so many analogies in nature that indicate that nature works in the same way. A pine tree grows on a high altitude where a palm tree would not and each grows to its own needs. The branch of the pine slopes to a base that would carry the weight of snow and resist wind and the palm does not. Nature works in the same way whether with inanimate or animate things. Architecture shows a growth of evolution. There may be a powerful intelligence in some receptive community and around him will be a group that will accept his dicta and from him develop a cult. In Hildesheim a bishop centuries ago developed an artistic community where the neighboring Huns fell back into barbarism. In Spain is the constant recurrence to two great factors in civilization: one the Roman, the other the Arabian, neither Iberian in character, neither indigenous to the soil, but both the result of a powerful and dominating intelligence that had at one time occupied that area and familiarized the people with types that best seemed to meet their needs.

Therefore no artificial development of a national style can be looked for. I look for it just when the national need requires it, and that we are accomplishing such a development at the present time can be perceived. The English at a certain period tried their best to import the Italian Renaissance architecture and made wonderful successes in Renaissance, but no one for a moment would contend that Wrenn's churches had anything of the aspect of an Italian church. They are English and always will be. Climate influences a country's sense of design. Certain details are obtrusive, but it is necessary that they should be so if they are to be seen at all in an atmosphere which so large a part of the time is dull and colorless. The English country house with mullioned windows results from the same climatic conditions. Our own country houses developed from climatic conditions. Southern California, for example. Climatic conditions, and regional construction. It is a happy thing that types of this sort are being developed.

WE are evolving a regional type and regional characteristics and it is not at all difficult to perceive it. But it will not develop into definite stylistic forms for a long time.

How can you expect a regional type to develop when the country absorbs at least from one to ten per cent. of its population from foreign countries?

But was not the whole country at first "foreign"? arises immediately in a listener's mind.

Here is the answer to that:

"The Colonists built towns but did not intermingle. They were isolated. Those that were close together were very largely from the same Anglo-Saxon root, so there was not a material difference between the influence of the Dutch in New Amsterdam and New Jersey, the Swedes in Delaware and the Germans in Pennsylvania, and especially was that true because those countries were themselves very closely related. Did not the Puritans in England go first to Holland before they came to America? This had no influence on architecture, but shows the interrelation between England and the Netherlands."

A man who is unquestionably one of the world's great architects gives the practical application in the following comment:

The development of regional types in architecture naturally implies a building program. "But when?" is the big question of the day. The answer to this question was almost unanimous, and is very well expressed in the one quoted below. There is quite a bit in that answer regarding paternal legislation in building activities. That, in the opinion of a great number of architects questioned by this journal, is a big thing to think about in 1921.

"THERE will not be a *quick* resumption of building," this architect holds. "The weight is too great to move quickly. But it is bound to come. I am very optimistic about it. But it will not come if we have excessive labor prices or combinations of material supplies. You have got to normalize conditions and I am optimistic that we will be able to do so. I do not think the banks have retarded resumption. The chief source of retardance is high prices. It is fundamental that no one wants to pay more than a thing is worth. Only extreme necessity drives him to do it. Any one who invests in a building for rent, no matter what type of building it is, has to keep his average income for a period of years. He cannot afford to build on a high market unless he is sure to have high rents for sufficient time to amortize what he pays and what competitors will pay in ten years. Renting is a business. It invites investment by reason of opportunity for reasonable profit. Laws that obstruct reasonable profit and discourage men from taking risks are not going to produce more buildings. As a general proposition it is a debatable one that the attempt to legislate in a paternal way is contrary to the interests of democracy. The large portion of the distresses that communities suffer is from excessive legislation. Think of the old independent spirit of the American people, who scorned to take refuge under legislative action and built up a spirit of personal independence. I do not believe at all in paternalistic legislation. You cannot legislate the law of supply and demand out of existence.

WHEN communities come together the conditions of human life vary from when individuals live apart. The more there are, and the closer together, the more necessity there is for the maintenance of the rights of individuals one against the other. Only for that would I legislate.

The moment you begin to fix values, of farm products for example, you have interfered with the benefits of the farmers. You have not done any good. He was induced to plant wheat to meet a great necessity, not on the basis of supply and demand, but because the government guaranteed $2.35 for wheat. When the price of wheat went up the cost of bread went up. Then everybody thought they would get what was coming to them because they thought they could get it, and also because they needed it. Then the farmers had to pay more for labor. The efficiency decreased. The farmers found the price of wheat falling. The supply was met. For a time he could not get his product to the market because no railroads were available. Over-legislation attacking railroads caused confusion to transportation. Hill said ten years ago that to put railroads back would cost $50,000,000. The government took the railroads for the war. The government broke the railroads down by congestion. Ten yards of ten shipways each would have been better than one yard with 100 shipways. The farmer sees that while he thought that at $2.35 he was going to make money, he has to pay $10 a day to harvest his wheat, so he does not make so much as he did when he got only $1 a bushel for it.

Such comment brings to mind the oft repeated question: "Is architecture a business?" A very prominent architect recently termed this a "banal" question, but he gave an answer to it which in itself is something to think about every day of the year.

He referred to the subways of New York, and to the insistent demand that new subways are sorely needed. The present interest paid by the city, he said, is about $45,000,000 a year. A little over four hundred millions more is contemplated for subway construction.

"Four hundred million is spent on rapid transit, to say nothing of the interruption to business during

(*Continued on page* 15)

Old Shop, Litchfield, Conn.

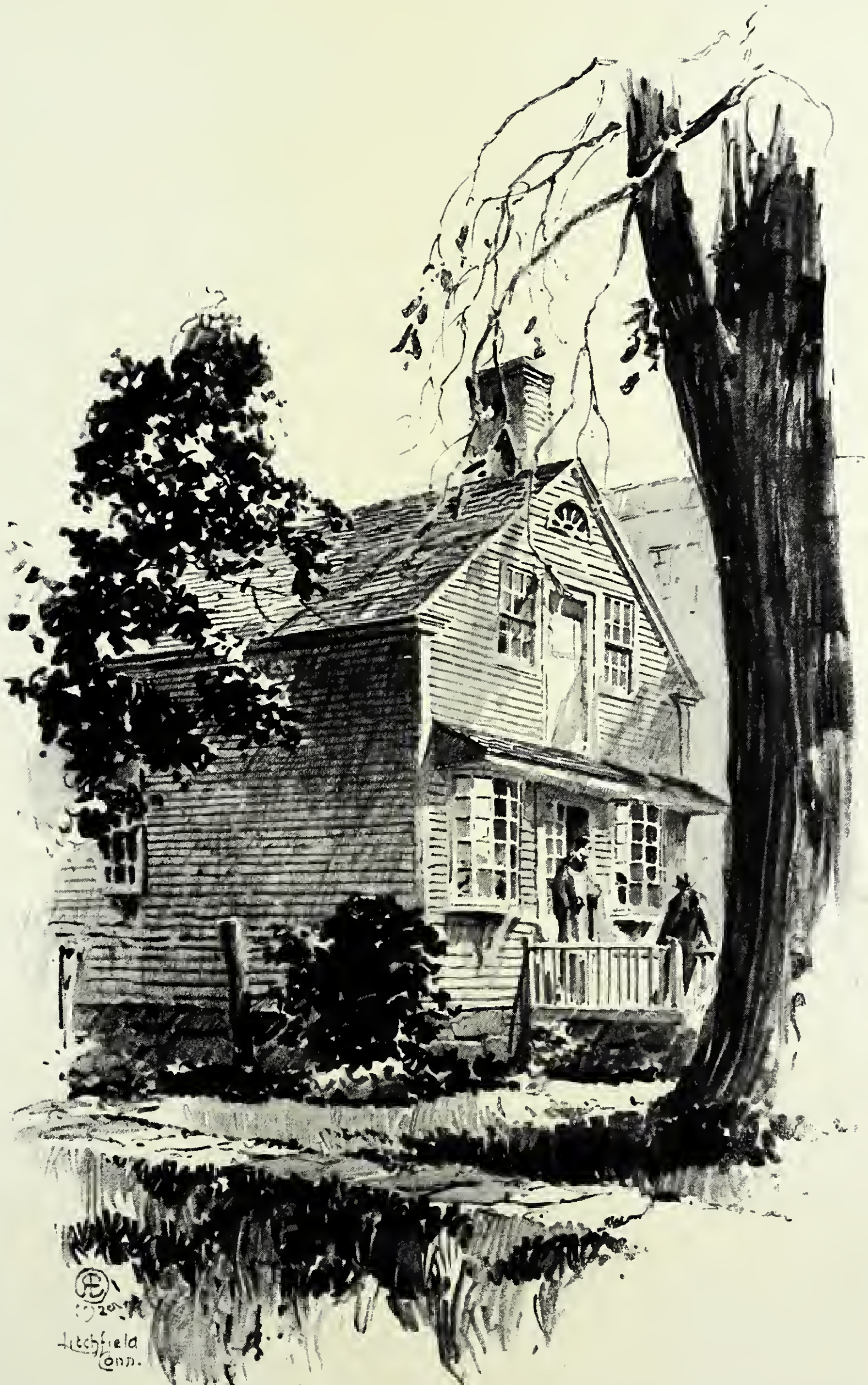
(See reproduction of original drawing by O. R. Eggers on opposite page)

LITCHFIELD'S history dates from its settlement in 1720. It grew as all New England towns of earlier settlement grew with winding streets and shaded lanes which truly typified the simple characters of the early inhabitants.

Its builders built as did all the early New Englanders with a fine regard for the basic elements of good architecture and even the humble shop was not too insignificant to receive the careful thought of its designer. There is a most satisfactory indication of good design and honest building in the present subject so well presented by Mr. Eggers, who found many equally satisfactory subjects for his book of sketches during a visit to old Litchfield. Litchfield preserves its traditions, which teem in historic association, and it is equally proud of its record as the birthplace of many illustrious men.

The first law school founded in the United States was at Litchfield, as was also the first "woman's seminary," the forerunner of the woman's college. Lyman Beecher, the father of Henry Ward Beecher and Harriet Beecher Stowe, was a much respected pastor of a Litchfield church, and it was in Litchfield that Henry Ward Beecher and Harriet Beecher Stowe were born. Ethan Allen was also born in Litchfield.

When the murmurings that marked the days before "the shot heard round the world" was fired at Lexington, and the Revolutionary struggle was begun, Litchfield had rounded out a half century of growth. Many old buildings stand today that stood then as silent witnesses to the part this quaint New England town played when it sent its manhood forth to join the Continental armies.



OLD SHOP, LITCHFIELD, CONN.
THE AMERICAN ARCHITECT Series of Early American Architecture

(*Continued from page* 13)

construction, also a cost. The interest on that at 4 per cent. would be $16,000,000 per annum. If you took only half of that, namely $8,000,000 a year, and spent it in building a series of diagonal avenues linking up east and west sides of the city with facilities for playgrounds, short cuts across town, convenience in traffic to the business section, you would open up a section now in bad condition and do it at least as well as Naples thirty years ago, when they re-zoned that city; and for $6,000,000 to $10,000,000 a year you could have a permanent investment that would amortize, that provides a convenient living place, that would do away with a large portion of your subways and save original cost to a considerable extent. With diagonal avenues you would not have the north side of the street with all the sun and the south side with no sun at all. You could have both sides of these dwellings exposed to the sunlight. You would have broad avenues; you would have places where people might promenade and for streets carrying traffic and would assume at minimum cost that instead of carrying the live human people in holes in the ground out of the sunlight like a lot of moles, and the freight or traffic in the sunlight, you could have some traffic subways to take freight and let the people occupy the surface where they belong."

Now, that opinion is extremely valuable, and most certainly furnishes something to think about, when it is remembered that the man who gave it to this journal is an Immortal, a member of the Legion of Honor, has won the Medal of Honor for Architecture, and has achieved distinction and fame as one of the finest *artists,* in every sense of the word, in the profession of architecture. If he can give time and thought, as he undoubtedly has, to matters as commercial and material as taxation and subway construction, as well as to the more aesthetic side of life, it would seem that the consideration of the time-worn and timely "Is Architecture a business?" question would well merit very serious thought this year.

Last, but not least, is the matter of the registration of architects. Full comment on this would require many issues of this journal. We print the following comment, because it is rather new and seems to us to be a thought-provoking statement:

"Registration does not make for any better architects or any better service to the people. It adds to taxation. It would not keep out incompetents. You cannot pass a law stopping the country carpenter from building a barn. I believe that branches also on paternalistic legislation. The best protection for the public and the architect both is the establishment of high standards of public information in regard to what constitutes good design and good building. The survival of the fittest does not necessarily hold good because a man may make up in activity of solicitation, like any other quack, what he lacks in genuine ability, and get the business."

These are some big things to think about in 1921. They are not the only things worthy of serious consideration, but most certainly they are the big ones, if opinions gathered from all over the country can be taken as an accurate gauge of worthwhileness. This journal believes it *is* an accurate gauge — an extremely accurate one.

The Building Outlook in the Middle West and on the Pacific Coast

(*Special Correspondence to* THE AMERICAN ARCHITECT)

CHICAGO.

THE building fraternity in Chicago is welcoming the new year with much more than the usual acclaim because of the potential progress in the industry which the incoming year seems certain to possess. Everything points to an early and comprehensive resumption of building activity, which will keep all hands busy during the year and beyond.

Practically no one who is in a position to gauge present indications dissents from the general tone of optimism. Real estate men, contractors, builders, architects—everybody who touches the building industry seems well assured that the long-needed expansion is certain to begin early in 1921 and to continue without interruption for an indefinite period.

The psychology of the situation favors this expansion; the labor problems are becoming simplified; material costs are being reduced; the need of buildings is growing more acute and the financial aid necessary to make the building program possible now seems more easily available. With all of these concomitants so favorably disposed, there is really nothing in the way of the forward march. Even the mild weather now prevailing seems auspicious and may mean the opening of many important projects much earlier than could be usually expected.

A very optimistic expression comes from Henry K. Holsman, president of the Illinois Chapter of the American Institute of Architects, who believes that the approaching season will be marked by great building activity.

"I am constantly in touch with a great many architects," says Mr. Holsman, "and my information is that the architects are going to have all the work they can possibly do. A great deal of work is already on the boards, with many plans already completed and merely awaiting the word for actual work to begin."

Charles M. Bostrom, Chicago commissioner of buildings, is another who predicts record-breaking activity. Chicago's greatest building boom will shortly begin, according to Mr. Bostrom, and before it is finished living quarters for the present unaccommodated 100,000 families will have been built. He estimates that at least ten square miles of property now vacant in and around Chicago will be covered with homes and apartments during the building renaissance.

Mr. Bostrom's records show that the first eleven months of 1920 saw the issuance of permits for buildings valued at $74,000,000 as compared with a valuation of more than $95,000,000 for the same period in 1919. Permit valuations for December of this year are estimated at $3,000,000.

Chicago's record building year thus far was 1916 when permits representing a value of $113,000,000 were issued, but it is Mr. Bostrom's belief that the building in 1921 will set a new mark for progress in Chicago.

A word of very great encouragement comes also from S. W. Straus, head of an important Chicago financial house. He points out that there has been great improvement in the conditions which have previously hindered building and he expects an immediate resumption of building activity as soon as weather conditions become more settled and favorable.

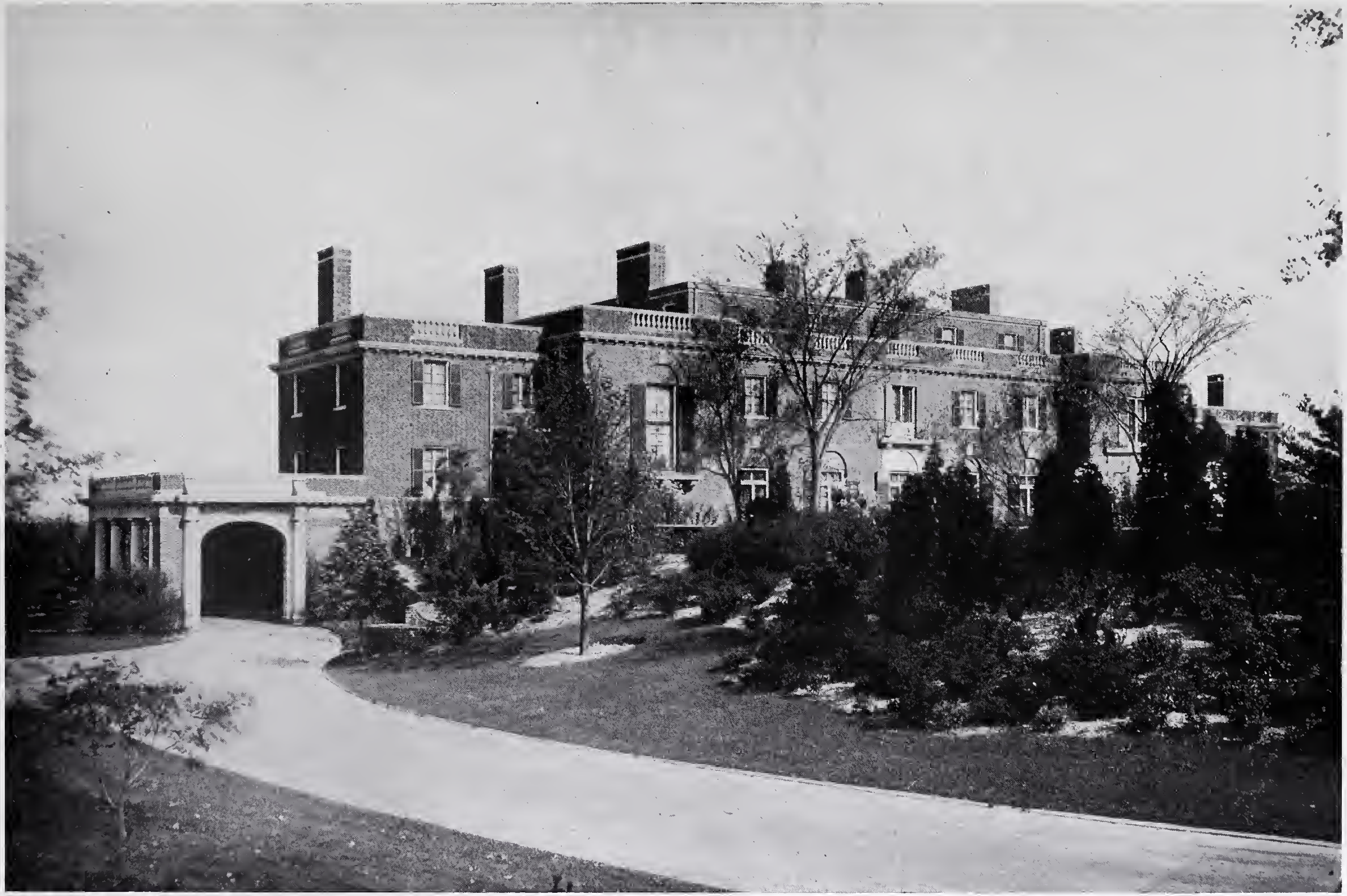
"While construction is at a low ebb at this time," said Mr. Straus, "conditions are favorable for the resumption of building on a large scale."

Even more emphatic emphasis of the encouraging outlook than that given expression in mere individual views may be found in the news of the actual building improvements under consideration at this time. Most of these projects have passed through the nebulous stage and are definitely under way.

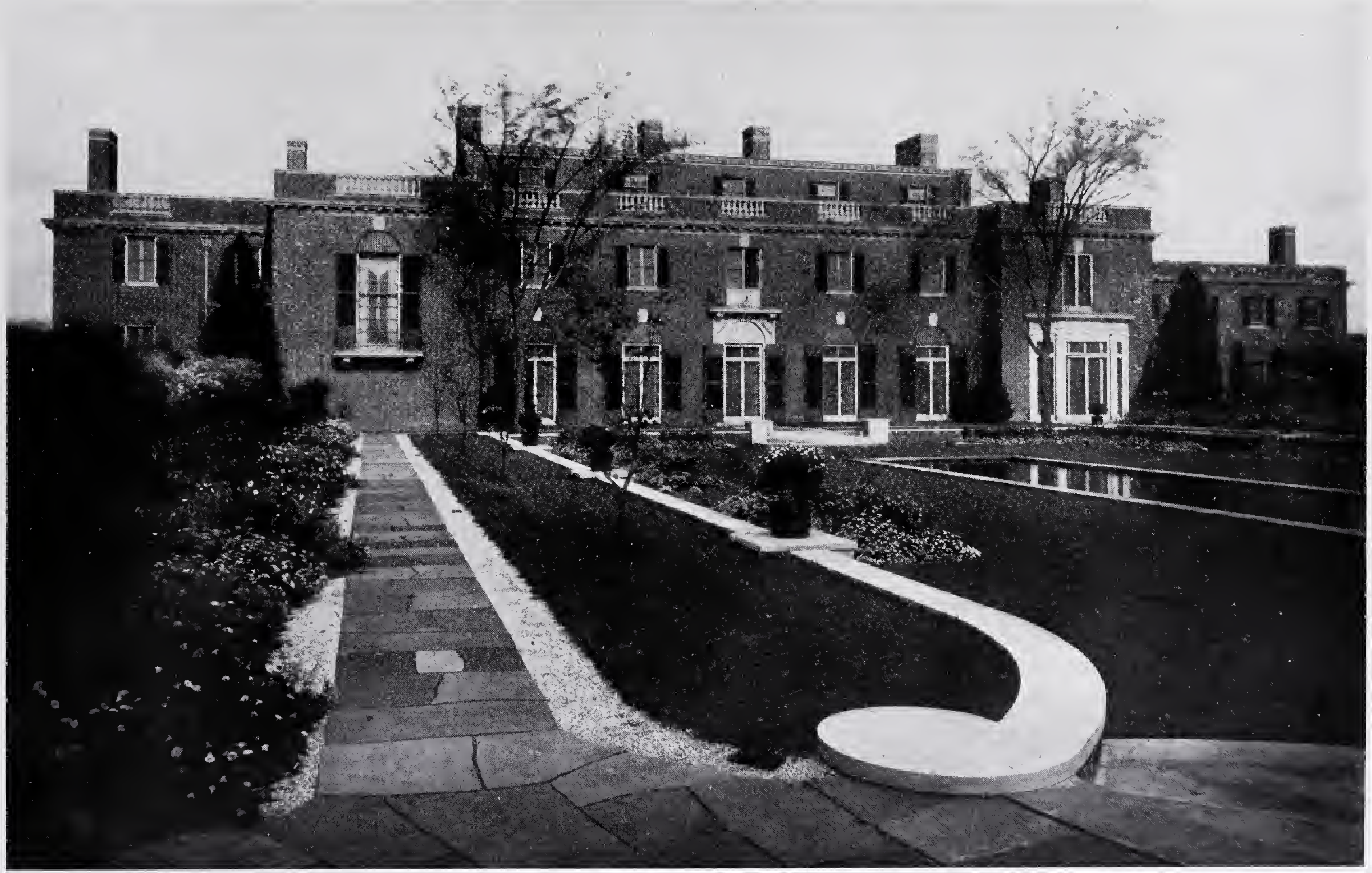
It is reported that the building program of the University of Chicago which was held up by the war is about to be resumed. Very vast expenditures are contemplated, among them the erection of the important medical group of buildings at the university. Northwestern University on the north of Chicago also has some very important building plans which are shortly to be revived.

Announcement has recently been made of plans to raise $1,000,000 for a new hospital on the Chicago Southside. The site is that now occupied by the Woman's Hospital at 460 East 32nd street. This property has been sold to a new corporation known as the Illinois General Hospital which will be the name of the new and larger institution. Clubwomen in Chicago are behind plans to start an early drive to raise funds for this new project.

News of a 21 story hotel project to cost $5,000,000 is also current in Chicago. The site of the proposed new hostelry is the now popular Union Station district, the exact location being at Canal and Clinton streets. Property has already been secured by the



HOUSE OF JAMES J. HILL, OLD WESTBURY, L. I., N. Y.
WALKER & GILLETTE, *ARCHITECTS*



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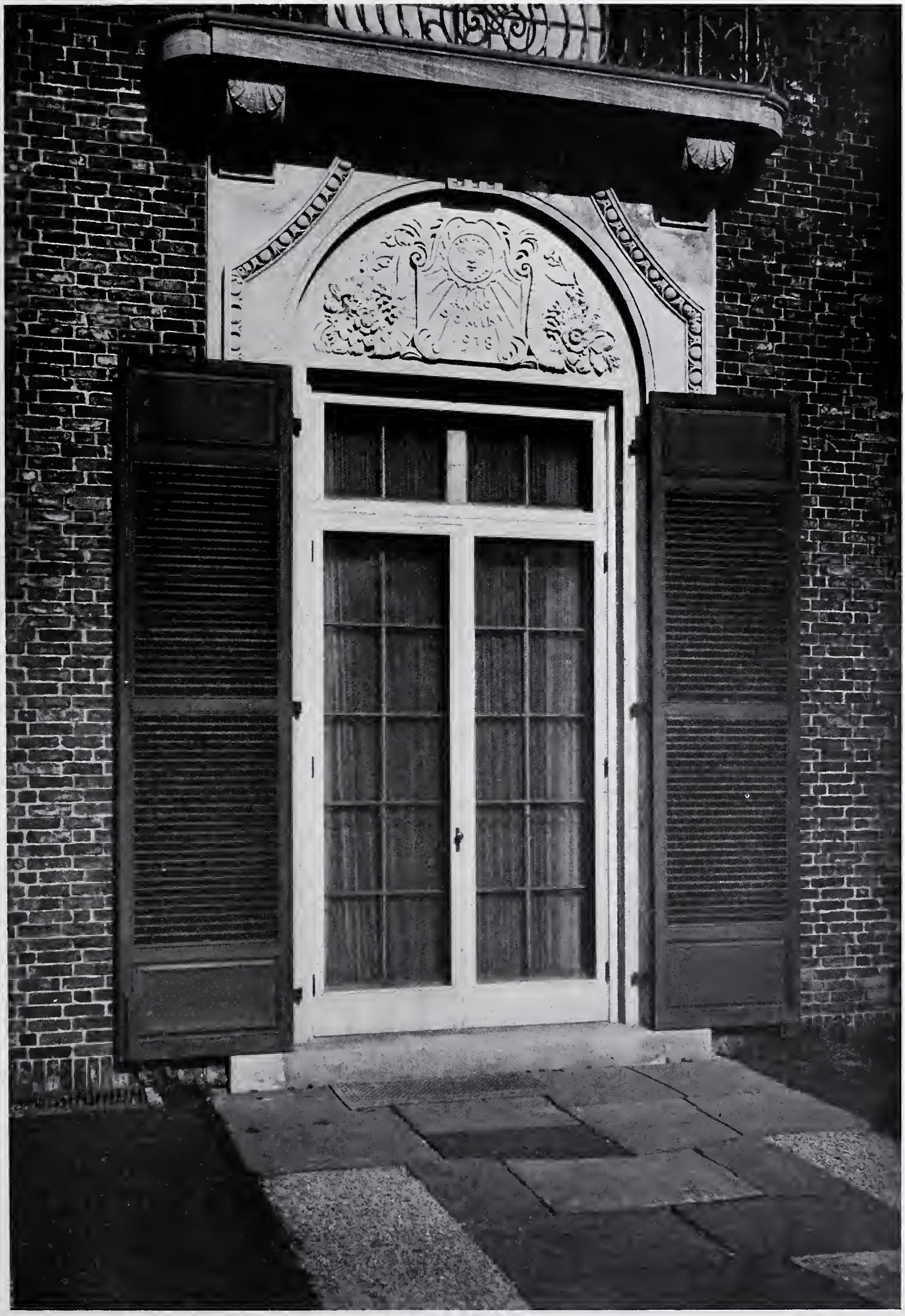

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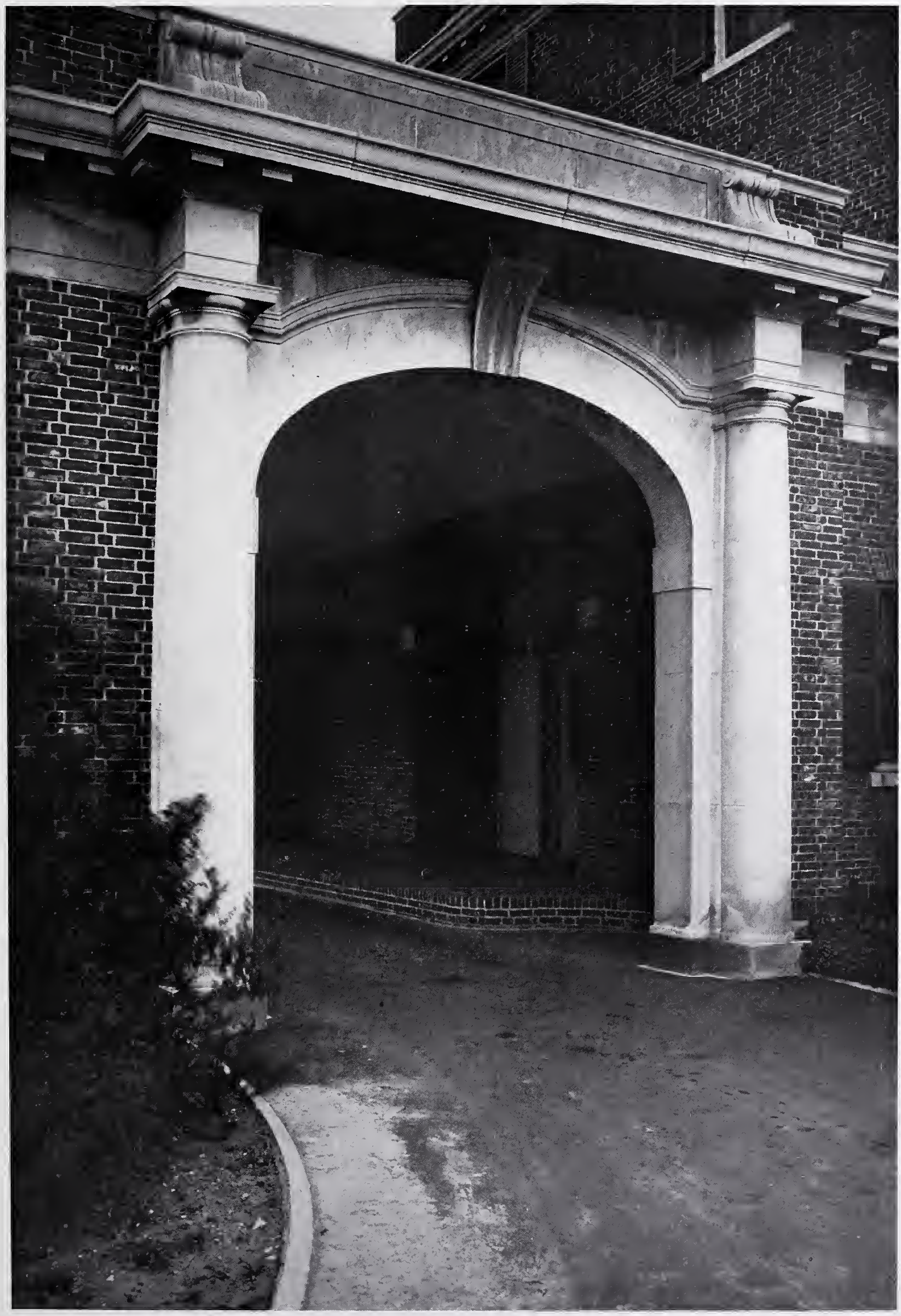

PORTE COCHERE
HOUSE OF JAMES J. HILL, OLD WESTBURY, L. I., N. Y.
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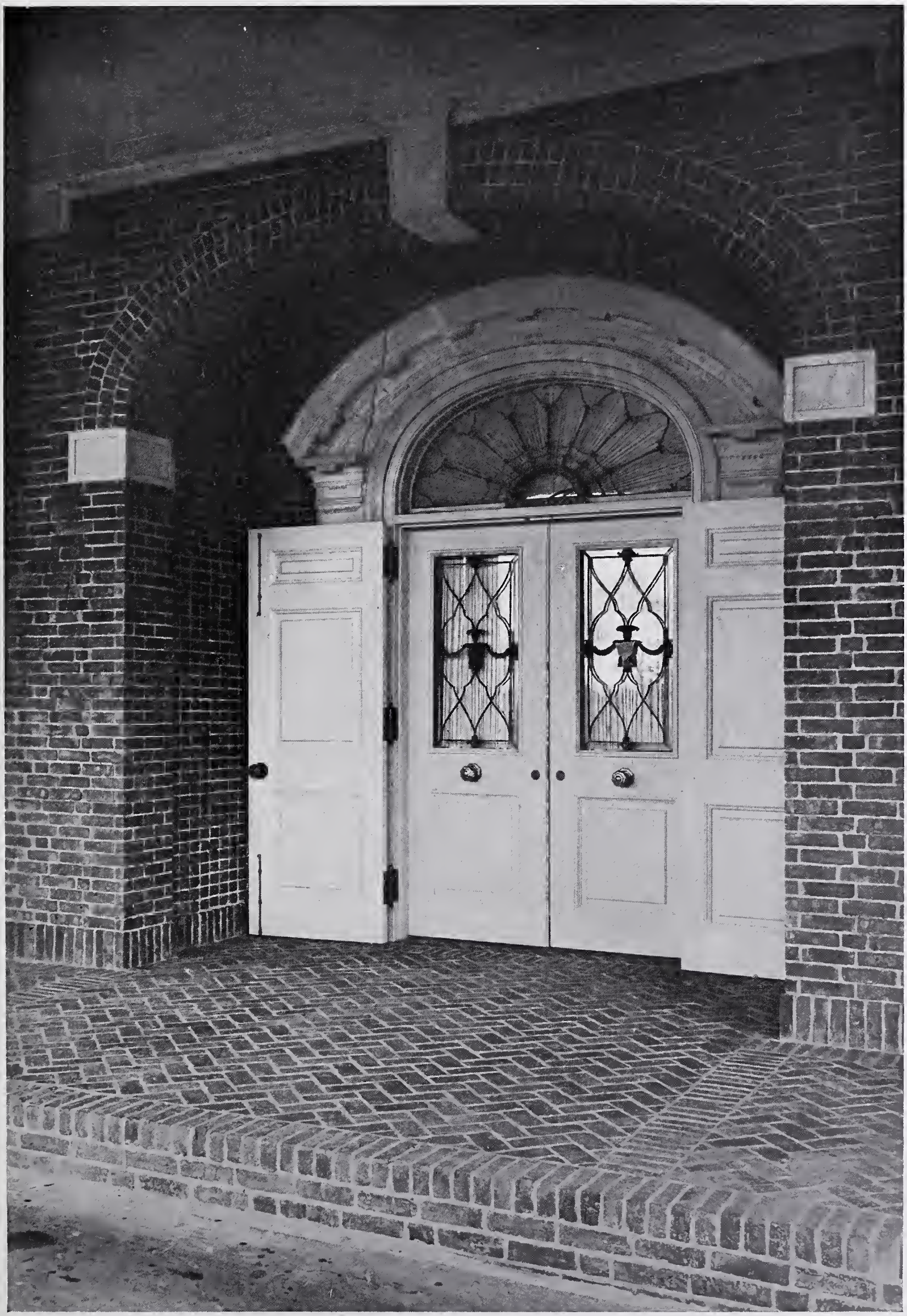
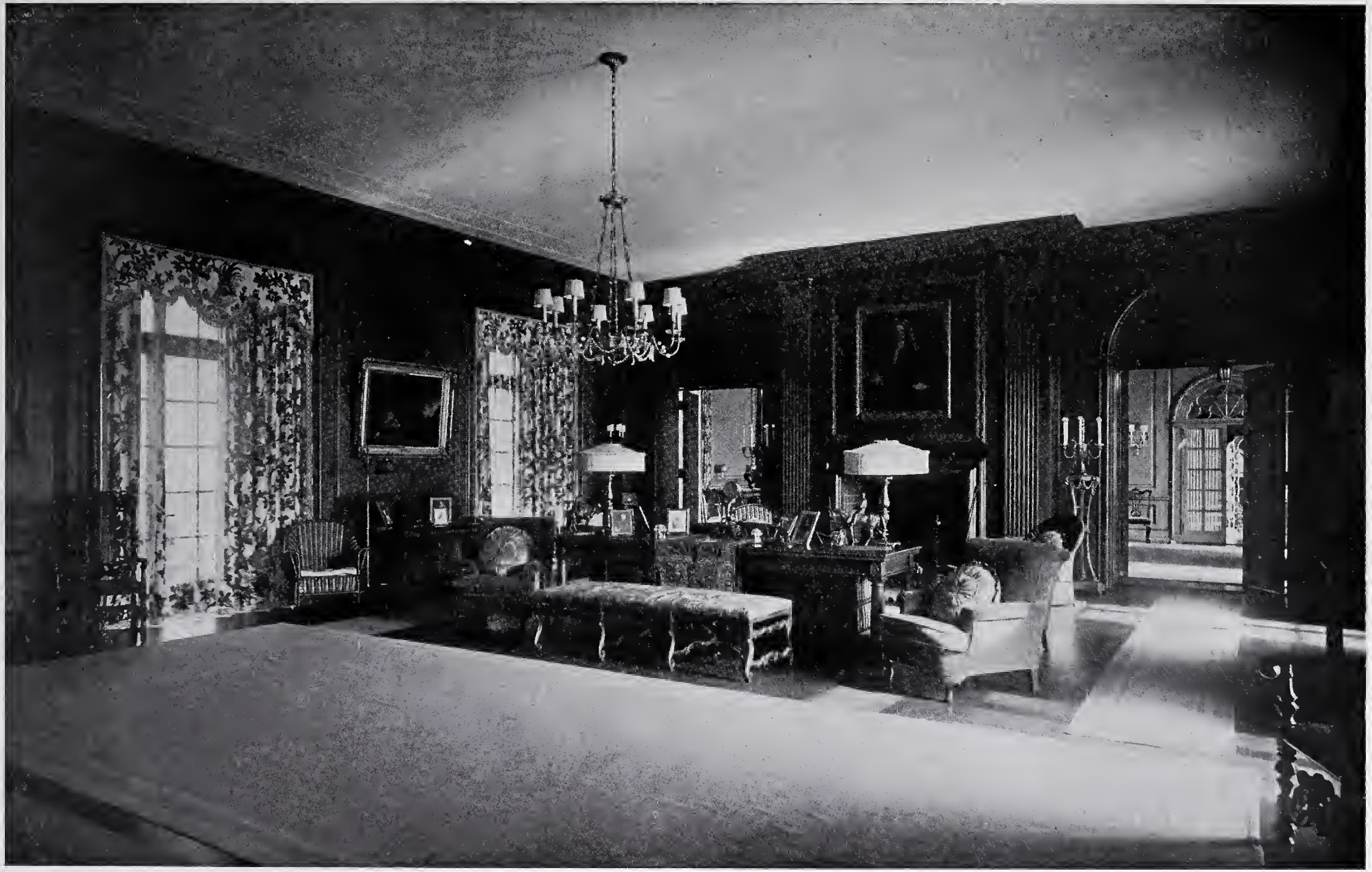


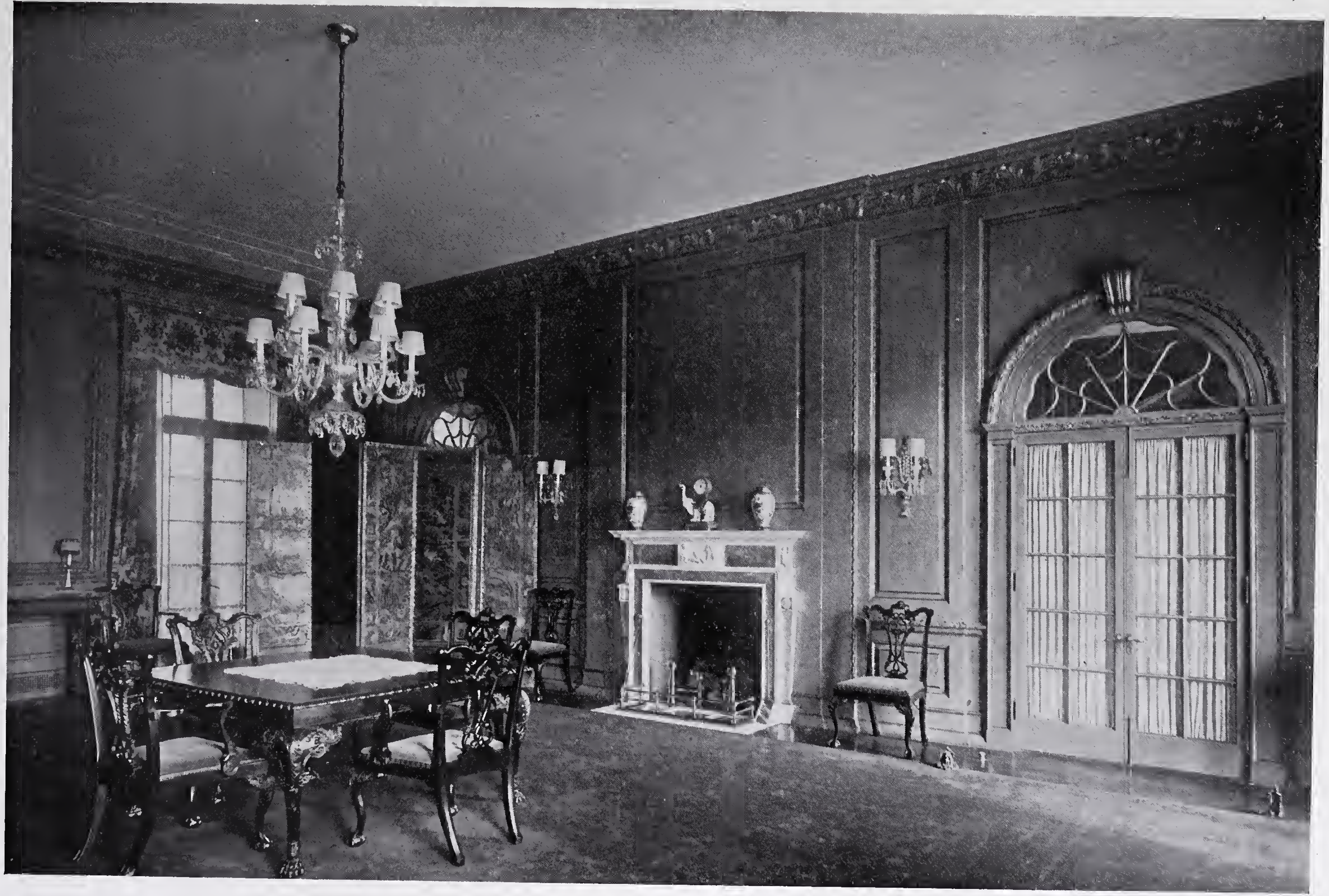
ENTRANCE DETAIL
HOUSE OF JAMES J. HILL, OLD WESTBURY, L. I., N. Y.
WALKER & GILLETTE, *ARCHITECTS*



THE LIVING ROOM

HOUSE OF JAMES J. HILL, OLD WESTBURY, L. I., N. Y.

WALKER & GILLETTE, *ARCHITECTS*



THE DINING ROOM
HOUSE OF JAMES J. HILL, OLD WESTBURY, L. I., N. Y.
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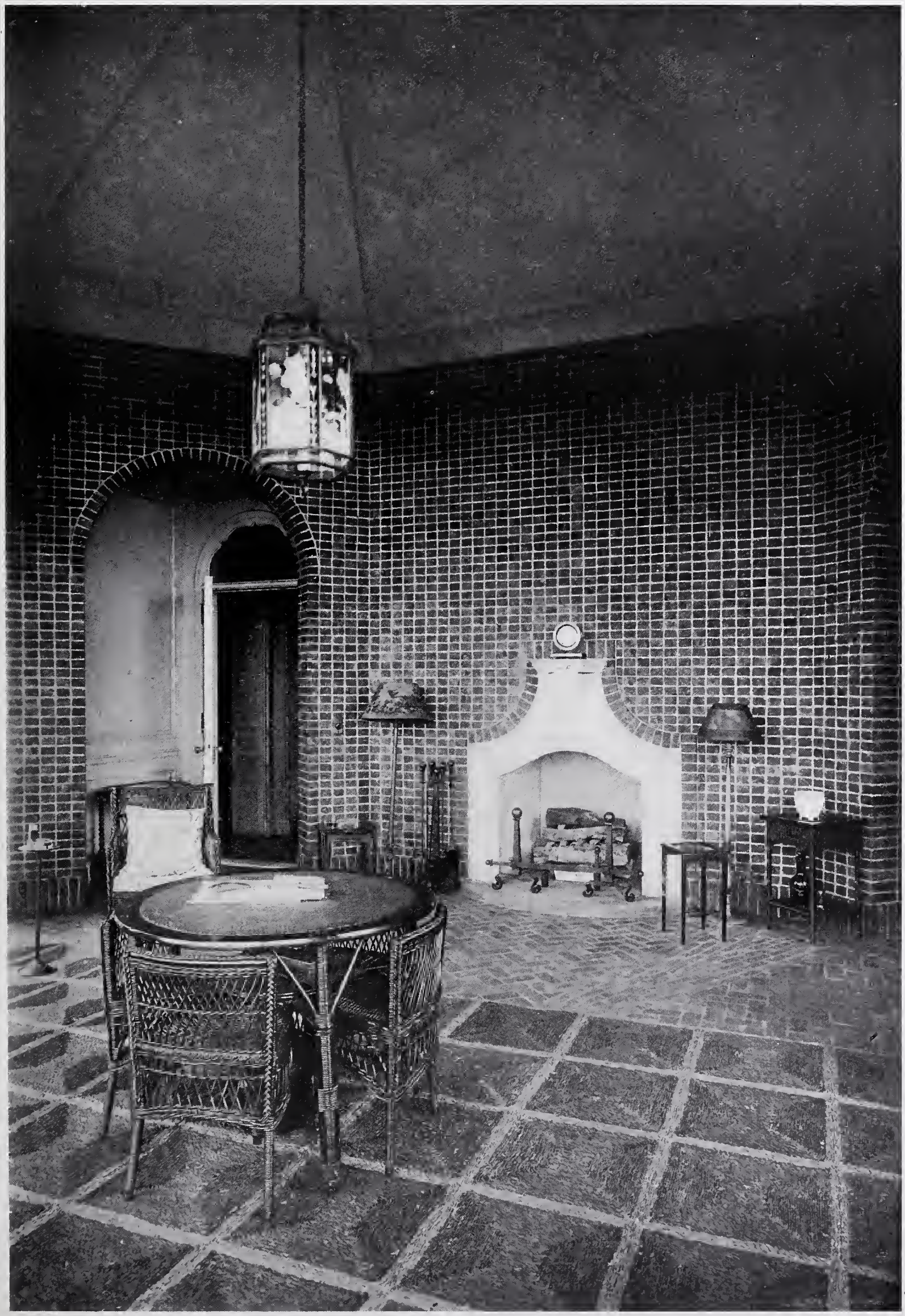


HOUSE OF JAMES J. HILL, OLD WESTBURY, L. I., N. Y.
WALKER & GILLETTE, *ARCHITECTS*

Arthur R. Jones Syndicate which has the project in hand. The buildings on the property will be the hotel already mentioned and an office building to supply the needs of this important business section. The hotel will be connected by means of a boulevard subway with the station, after the fashion of the Grand Central station in New York with its hotels adjoining.

The Union Station improvement will give new impetus to building in this part of the city and a gradual upgrowth of the entire wholesale section in that vicinity is anticipated. Rents, in fact, are already feeling the pull of the improved situation and new leases are being made on a higher rate.

Chicago's greatly needed new postoffice building is also to grace this same general locality. The exact location is at the northeast corner of Jefferson and Quincy streets, a half block west of the Union Station. The building will cost in the neighborhood of $1,500,000. It will not displace the general postoffice in the Federal Building at Dearborn, Clark and Adams streets but will be utilized to relieve the mail congestion which results from the inadequate size of the present building. Alfred L. Alschuler is the architect of the new postal station, upon which work will begin in early spring.

Theatrical progress is to add its share to the building boom. Three new theatres in the downtown district are said to be in contemplation by the Shubert interests, though nothing very definite has been given out as to plans. More tangible is the proposal of an unnamed eastern syndicate to erect in Chicago a chain of outlying vaudeville houses at a cost of approximately $4,000,000. The first of the chain will be a $300,000 building on West Roosevelt Road near Ashland avenue.

Definite plans for the new Federal Reserve Bank building, for which excavation is practically complete have lately been made public. This building to be located at La Salle Street and Jackson Boulevard will be fourteen stories in height, with provisions made for the addition of four stories should the first limit prove inadequate. Architecturally, the building will be a free interpretation of Greek and Roman classic style, the outstanding feature being a front colonnade, sixty-five feet high.

The cost of lumber and other building materials has taken no important decline during the past week or so. The feeling is general in the lumber industry that the building boom will drive prices upward and this hope is doing a great deal to firm the market.

Following recent revisions, the materials manufacturers are also holding firm, with no change of importance in the list of prices.

A general summary of building and materials quotations follows:

Yellow pine:—B. & B. 1 in., $95 to $130; 13-16, 3¼ flat flooring, $85 to $90; 2 by 4, 10 to 16 feet, No. 1 long leaf, $51; 2 x 6, $48 to $49; 2 x 8, $49 to $50; 2 by 10, $52 to $54; 2 by 12, $54 and $56.

Northern Hardwoods, carload lots, Chicago:

Birch, four ¼ No. 1 and 2, $155; select, $130 to $138; No. 1 common, $95 to $100; No. 2 common, $60 to $65; No. 3, $35 to $40.

Hard Maple, four ¼ No. 1-2, $135 to $140; select, $115 to $120; No. 1 common, $95 to $100; No. 2, $60 to $65; No. 3, $32 to $50.

Red gum four ¼ No. 1 and 2, $148 to $152; No. 1 common, $88 to $92; No. 2, $43 to $47.

Birch, four ¼ No. 1 and 2, $155 to $160; select, $130 to $139; No. 1 common, $95 to $100; No. 2, $60 to $65; No. 3, $35 to $40.

Douglas fir, 12 by 12, No. 1 up to 32 feet, $65 to $75; 14 by 14, $68 to $75; 16 by 16, $70 to $75; 18 by 18, $75 to $80.

Cement:—Universal, $3; Lehigh, $3.00; Portland, $3.00.

Bulk lime, $1.70 to $1.90; face brick, octagons, $68 to $75; fire brick, $32 to $40; 12 in. .24 to .27, 18 in. .46 to .54.

Crushed stone gravel $3.40 to $4; lake and bank sand-torpedo, $3.40 to $4.

SEATTLE.

NOT until an American dollar will buy 100 cents' worth of steel and hardware will building over the Pacific Coast be resumed in the proportion hoped for, and American business go on a basis that will be safe, sane and profitable. This was the tone in which large hardware, sheet, pipe and nail operators defined the situation for 1921 this week. It is contended that the steel mills have not responded to the demands of the hour, and that other marketing avenues, in guaranteeing prices on building essentials as they are offering to do today to jobbing houses are outside their rights if they propose to aid the country in getting back to normal

The general tendency of jobbing houses on the coast, which include all steel and shelf hardware, sheets, roofing, cement and wall board is to refuse to buy, taking on only what can meet the narrowed requirements of the year-end. In this way, with individual action prolonged, it is felt that stocks will accumulate in the hands of manufacturers and that a price tumble will be inevitable. Corroboration of this position is shown in the fact that salesmen have increased in number, eastern steel mills have found it necessary to personally scan, cultivate and tactfully view the field in person. However, the minds of jobbers seem to have been made up, particularly since it is known that gross margins in the North Pacific jobbing trade were not moved upward during the war as in other sections, and the jobbing trade protected its customers by keeping as close to reasonable profits as was possible at that time. Jobbers claim that it is impossible for any one of the many lines of construction material to guarantee prices to-day until March 31, as is proposed, or for twenty-four hours, and the point has been raised as to whether it can be done in conformity with law. This attitude of manufacturers has stirred jobbers into a belligerent mood, and buying will be limited in the Pacific coast territory until the future basis is modified.

There is an ample supply of nails, pipe, all but halves and three-quarters galvanized, and nails. Stocks of roofing, cement, fire brick and plaster wallboard are ample to take care of the estimated need for the next ninety days. Jobbers in steel products announce that they will follow all declines in the market regardless of cost.

Whenever steel mills more thoroughly reflect the national temper in their price list, at that time the reconstruction period will begin. This is the crystallized sentiment of nine out of ten of the heads of corporations engaged in distributing these products over the Pacific coast territory.

It is believed that fir lumber has struck bottom. A good many price lists are going to eastern commission houses, but save in the case of financial pressure prices are being held taut. The larger mills are refusing to accept business on the market of to-day and wages have fallen $1 to $1.25 per day, to $3.75.

Production for the week was 38½ per cent. below normal, and fir mills of the west coast territory sold only 769 carloads, 30,000 feet to the car, in the rail or eastern building trade. The mills hold orders for 2,736 carloads, still unshipped. The cut at the mills and the shipments were only 1.50 per cent. apart, a situation that has not been paralleled in months.

Negotiations for moving fir lumber and shingles to New York, Boston and Baltimore intercostal are going forward rapidly. Association authorities took up with the steamship lines the subject of low rates immediately after the railroads instituted what has become a prohibitive transcontinental rate, and comparison shows that the water haul to New York harbor will save shippers $14.60 per 1,000 feet on lumber alone.

Lightering rates in New York harbor and to Boston and other ports that have yardage space for lumber cargoes have been filed here, and a rate of 17 cents per hundred pounds from New York to Buffalo via the Erie Canal has been named. The railways stand to lose the lumber as they have lost the steel tonnage west bound, as well as the backhaul to interior points.

The fir mills this week sold mill base at $51 to $57 for vertical grain flooring, $29 to $31 for slash grain, $63 for finish, $27 to $29 for ceiling, $28 to $30 for drop siding, $18 to $20 for boards and shiplap, and $13.50 to $16 for common dimension.

The Outlook as to Building Material Costs in 1921

By A. R. Kriechbaum, *Eastern Editor, Lumber*

THE fundamental soundness of America is a guarantee for better business in 1921. This applies more particularly to the building industry than to many other lines of industry because the nation is at least four years behind in its building construction. The war taught the people of America many things, the most important of which was economy. Economy in housing space as now practiced would have been considered intolerable a few years ago, but this very thing has created business in the building material industry at a time when retrenchment in all lines has been general. The remodeling of buildings to provide more space for housing accommodations has furnished the principal demand for building materials during the past several months. This remodeling work, creating two apartments where there had been but one, is purely an emergency measure, and while it answers the purpose just now, it does not lessen in the slightest degree the potential demand for housing in this country. This demand must be met sooner or later. It remains for someone to start. Under existing business conditions the large investor has not been anxious to put his money in the building field when he could lay it away in tax-free securities. That this chief adverse element even now shows signs of improvement, however, is indicated by the fact that the larger insurance companies, building and loan associations and banking institutions are displaying a much more liberal attitude towards the building industry, particularly with reference to loans on individual housing projects.

Following as it did the artificial boom which began immediately after the signing of the Armistice, the period of depression of the past few months was fully expected, and, in fact, did not reach the proportions anticipated. It resulted largely from public sentiment. The public was sick and tired of high prices and it simply "struck." That the "strike" was won is easily attested by the present prices of all commodities, including building materials. Lumber, steel, brick and cement, the four basic building materials, are wholesaling cheaper today than at any time in 1920, and in many instances this is true of retail prices as well, but as a general rule the retailer has not taken his loss in proportion to other branches of the building industry, except, of course, the laborer. He is taking his loss just now in non-employment.

Building construction will begin during 1921. Whether it starts in early Spring or later, it is bound to start, and when it is finally under way it will continue for at least three years to come. There are several important elements which bear on the situation, the foremost of which is legislation, both existing and prospective. The "anti-landlord" rent laws enacted by the last New York Legislature virtually placed all rented property in the hands of the courts, and landlords as a general rule prefer to have supervision over their own property. Such legislation offers little inducement to the prospective apartment builder. On the other hand, the law-making body passed another law giving cities the power to exempt from taxation for a period of five years all new construction, and the City of New York is now working on an ordinance to this effect which may become a law in the Spring. This undoubtedly will encourage building.

The sensational disclosures of the Legislative Committees, which have been investigating the building industry for several months, have proven a revelation and have undoubtedly resulted in breaking up several "rings" which in the past have exacted great toll from the public. Prospective builders this year can proceed with the assurance that they will get a dollar's worth of building for every dollar they spend. This, again, will encourage building.

In the matter of material supply, there is everything in favor of the builder, at least for the one who builds early in 1921. The retail lumber yards as a rule are well stocked with lumber, the cement plants have a goodly supply of cement to start with and there is enough brick to keep things moving until summer when the brick plants resume operation. Material prices (the big factor) are very much in favor of the prospective builder. The basic materials are cheaper today then they were at any time during 1920 and the market will probably remain around its present level until Spring. The trend of the market during the last half of 1921, however, will undoubtedly be upward, but prices will never reach the peak of last year, at least, not for some years to come. And it is well that they will not. Any attempt to force prices up to last year's peak would be immediately followed by a stoppage of building.

The labor situation will be favorable to the resumption of building by Spring. Labor is getting more plentiful every day and it is merely a matter of a short time until wage scales will be reduced in the building trades just as they are being reduced at manufacturing centers throughout the country. And another important factor is the change in the attitude of labor. The individual is growing more efficient and less dictatorial. He is more willing to perform a full day's work for a full day's pay, which necessarily means a reduction in labor costs, even if wages are not actually reduced.

Transportation, another factor in the building industry, is almost 100 per cent. better now than it was at the beginning of 1920 and railroad officials promise continued improvement throughout this year. Shipments of building materials from producing points are moving smoothly. There are plenty of cars and the terminals are cleared of traffic, a condition which is just the reverse of that of last January. For the first half of this year the big trunk lines will undertake only improvements which are absolutely essential and the roads will be operated with as few men and at as little cost as possible. Their retrenchment policy, however, will not be taken to the point where it will interfere with service to the public.

In all branches of the building industry there is a better feeling of confidence than there has been at any time since the close of the war. Everyone knew that the boom which followed the signing of the Armistice was artificial and could not continue. They knew that the prices which prevailed last winter were entirely too high for the best interests of the industry. For the most part, they welcomed the turn downward, for while many of them lost money by the break in the market, they were able to take their loss because they realized a good profit during the months preceding.

During 1920 more buildings were planned than ever before in history and yet actual construction fell considerably short of that of the previous year. Millions of dollars in new construction, represented by plans and blue prints, are now held in "cold storage" by architects. They have all been approved and in most instances the money appropriated. The architects are waiting until they think prices have reached the bottom before they ask for bids. A survey of architects' offices reveals the fact that housing projects and educational and religious institutions predominate, although there are quite a number of commercial and office buildings in the list. The general curtailment of production in all lines indicates there will not be such a great volume of industrial building this year. The building now under way is confined largely to the completion of structures started many months ago and to repairing and remodeling.

Manufacturers of building materials are very optimistic as to the outlook for this year. Both the cement and the brick manufacturers declare there will be a shortage of materials. One cement manufacturer pointed out that more than 31,000,000 barrels of cement will be used in highway construction this year, or about one-third of the nation's production. Cement producers are refusing to accept orders on present prices for spring delivery. In a good building year approximately 1,200,000,000 bricks are used. Last year the consumption was only 350,000,000. At present there are only 300,000,000 brick on hand at producing points and this supply would be exhausted in 60 days' time if building was resumed in any volume. The brick plants are closed down for the winter and will not resume operation until after May 1, the exact date depending upon weather conditions. Brick manufacturers will not accept orders for future delivery on the present market values.

In the lumber industry the producers have responded more readily to the downward price tendency than probably any other branch of the building material industry. Most low grade lumber today is wholesaling at less than cost of production. The mills are making some profit on the better grades, but not enough to offset this loss. This means that lumber prices, as a whole, must be higher after spring buying begins than they now are. A great majority of the lumber, shingle and lath mills on the West Coast and in the South have been closed down since the middle of November and most of them will not resume operation until buying begins in some volume. Stocks of lumber at the mills are not up to pre-war normal, but are considerably larger than those of last January. This surplus will be exhausted, however, with sixty days of active buying.

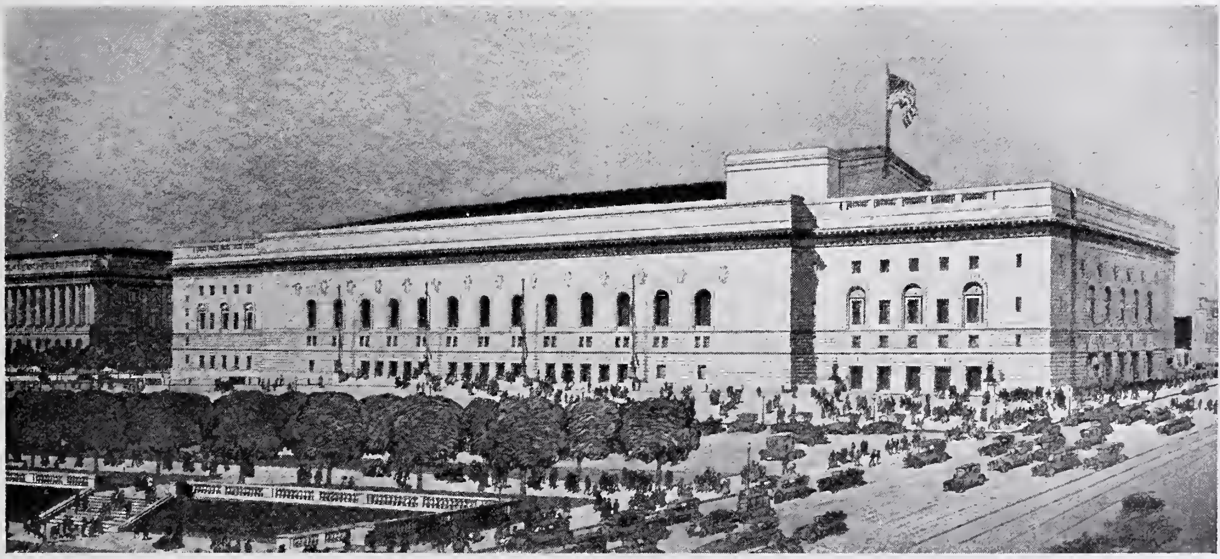
No one looks for a great boom year or the skyrocketing of prices, but for the last nine months in 1921 is generally predicted a period of good, substantial business, and from then on business generally will continue prosperous for the next five years.

DEPARTMENT OF ARCHITECTURAL ENGINEERING

The Cleveland Auditorium

A Notable Example of Architectural and Engineering Skill

ONLY the ordinary palls. And because the world is largely composed of ordinary people, ordinary buildings and many other ordinary things, they fail to excite interest. But the big men, the unusual things, are those that never fail to arouse our interest, our curiosity and often our admiration. We look on with awe and wish that we also might do big things.



THE CLEVELAND AUDITORIUM AS IT WILL APPEAR WHEN COMPLETED
J. H. MAC DOWELL, *ARCHITECT.* F. R. WALKER, *CONSULTING ARCHITECT*

The city of Cleveland, while not ranking with the largest cities, is yet a most progressive one. Just now Cleveland is doing something big in the building business. While private building lags behind and business in many lines is unusually dull, this city is investing money, part of which has been raised by a bond issue, in a structure which its citizens firmly believe is a most excellent investment and which will pay handsome dividends in the form of increased business for Cleveland citizens. Although it is not here desired to discuss the economics of the question, a consideration of the structure itself is worthy of attention.

The accompanying illustrations will more readily convey an idea of the magnitude of this structure than any lengthy description.

The Auditorium, now under construction, is the fourth building to be erected in what is known as the

RECENT PROGRESS VIEW SHOWING STONEWORK OF MAIN FAÇADE WELL UNDER WAY

Cleveland Group Plan. It occupies a site on the east side of the proposed Mall and is bounded by Lakeside Avenue on the north, St. Clair Avenue on the south and East 6th Street on the east. This building is 230 by 430 ft., while the arena or public hall proper is to be 220 ft. wide and 370 ft. long. In this vast auditorium there will not be a single pillar to obstruct the view of the army of spectators it will seat. The whole auditorium will be lighted from the ceiling, where the use of incandescents with a total wattage equivalent to 218,000 ordinary lamps is being planned.

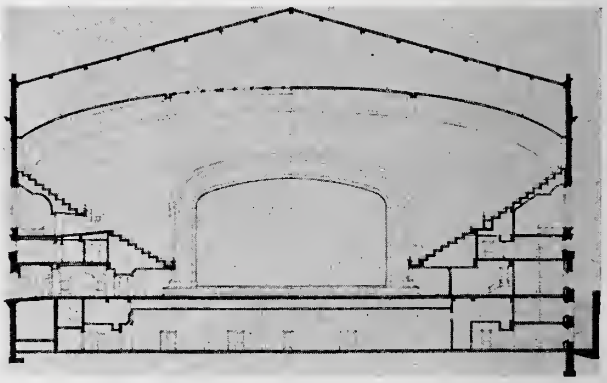
Modern fireproof steel construction is used throughout. The exterior is faced with granite and limestone, while the interior is finished in marble, tile and decorative plaster. The requirements to be met in the auditorium were such that the plan could not be well expressed on the exterior by the type of classical Roman architecture that prevails in the other public buildings of this group. It was found, however, that façades designed in the spirit of the Italian Renaissance were applicable to a true expression of the plan, and this type of architecture was therefore adopted, although the exterior details are classical and harmonize with the other buildings of the Group Plan.

A SECTION OF THE BALCONY STEELWORK

The Auditorium is an exceedingly interesting building because of the many varied functions that it is intended to serve. Many special features are incorporated in plan and equipment in order to fulfill these functions. The purposes for which the Auditorium is designed and equipped to be used may be classified as follows:

CONVENTIONS.

(a) Industrial.
(b) Educational.
(c) Fraternal.
(d) Medical.
(e) Political.
(f) Religious.
(g) Sales and business.
(h) Scientific.



CROSS SECTION LOOKING TOWARDS THE STAGE

ENTERTAINMENTS.

(a) Athletic.
(b) Balls.
(c) Carnivals.
(d) Circus.
(e) Motion pictures.
(f) Military.
(g) Plays.
(h) Pageants.
(i) Musical Concerts.
Grand Opera.

EXHIBITIONS.

(a) Aeronautical.
(b) Animal shows.
(c) Automotive.
(d) Machinery.
(e) Electrical.
(f) Chemical.
(g) Flower shows.
(h) Food products (prepared).
(i) Farm products (raw)
(j) Building materials.
(k) Textile.
(l) Industrial methods & and Special process.
(m) Plumbing and heating.
(n) Forestry.

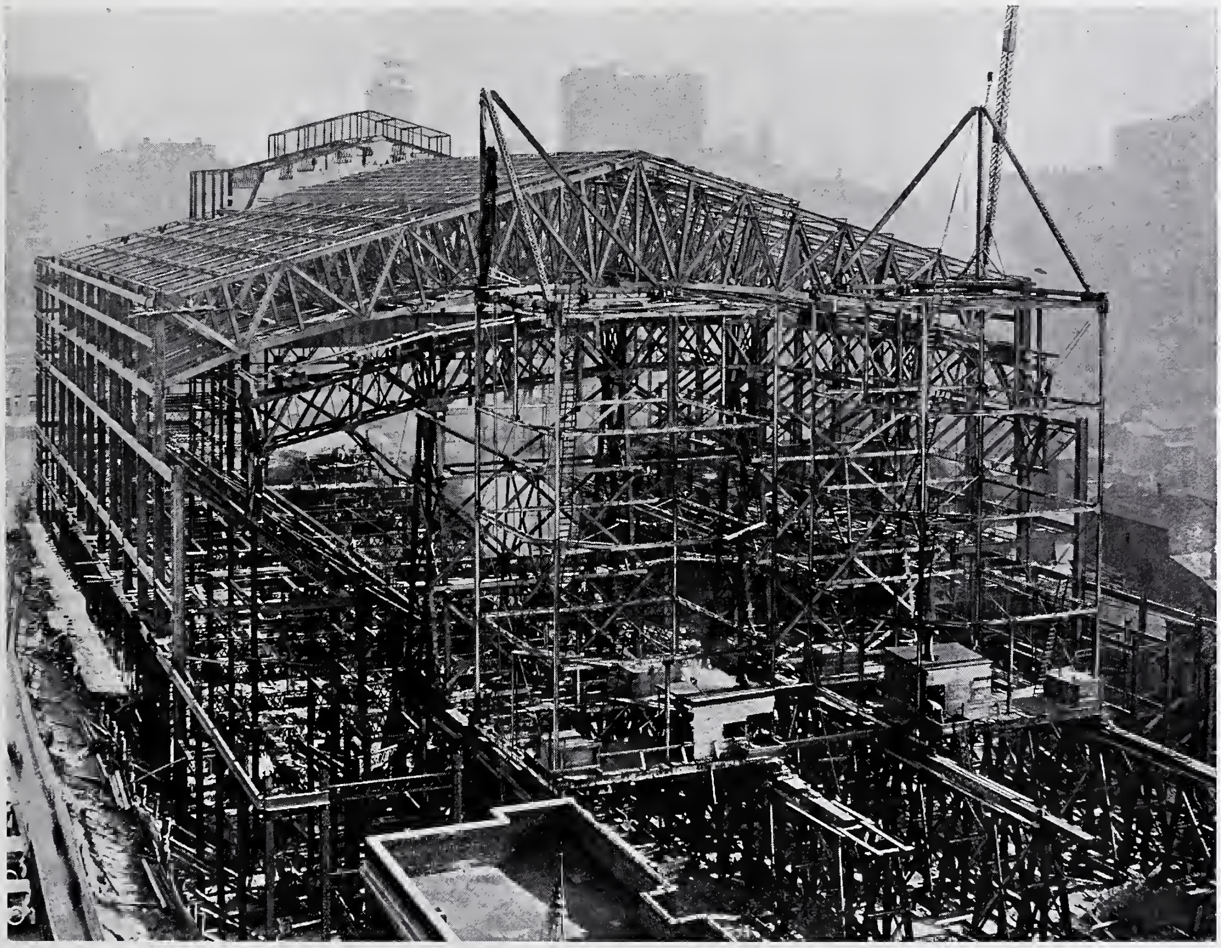
The seating capacity of the Auditorium for concerts and operas is 12,000; during conventions, however, this capacity may be increased to 13,500 by placing 1,500 additional seats on the stage. The main floor and basement combined offer 61,000 square feet of exhibition space, 32,000 on the main floor and 29,000 in the basement. Steam, gas, compressed air, vacuum and electric current (A. C. and D. C. 110 volt and 220 volt) are among the services available to exhibitors.

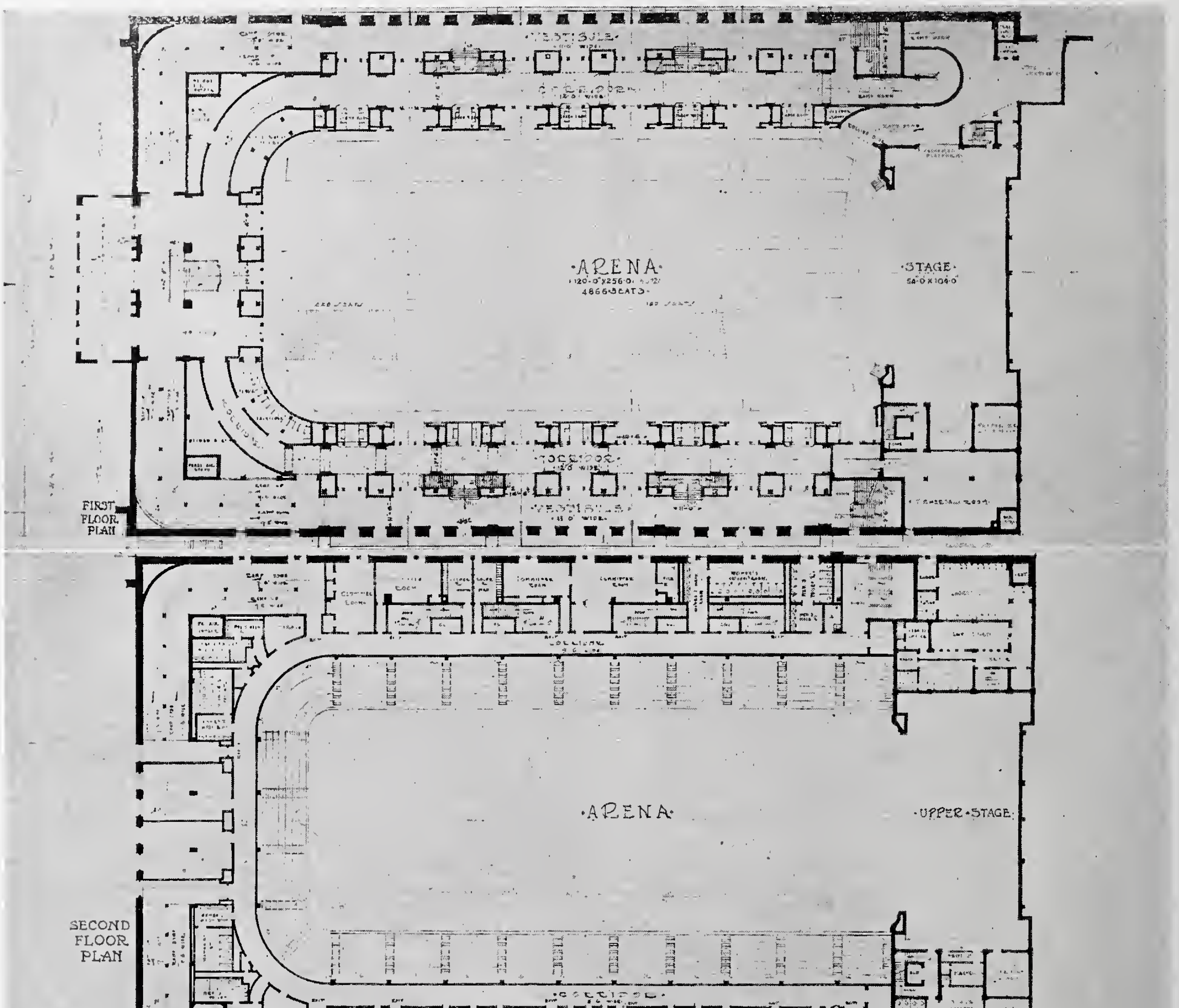
One of the primary functions of the building is the housing of national conventions. Every dependency required by such conventions is provided. These include suites of large committee rooms with separate entrance foyers, scores of telephones with a private exchange, taxicab service, lunch room, flower shop, barber shop, shower baths, and numerous other accommodations for the convenience of the busy convention delegates.

The stage is equipped in accordance with the best modern theatre practice. It is one of the largest in the world and provision is made for raising a 30 by 72 ft. ice skating rink or swimming tank from the basement to the stage level. The stage wings are provided with 28 private dressing rooms and chorus rooms with a total capacity of 200. One of the finest pipe organs in the country is to be installed. Special care is being taken to design the interior acoustically correct.

South of the arena will be a unit housing a complete theatre capable of seating an audience of 2,700 and with facilities for a company of 200 players. The stage of the theatre unit will also be the stage of the main auditorium and has a proscenium arch of 72 ft. span, a depth of 48 ft. and an overall width of 108 ft. Fly galleries are to be done away with, and nothing but modern stage-setting machinery used.

To the north of the arena will be located another complete unit of the same approximate size as the theatre unit on the south. The northern unit will be


VIEW SHOWING PLANT USED IN THE ERECTION OF THE AUDITORIUM STEEL WORK
Note the two traveling derrick towers in foreground



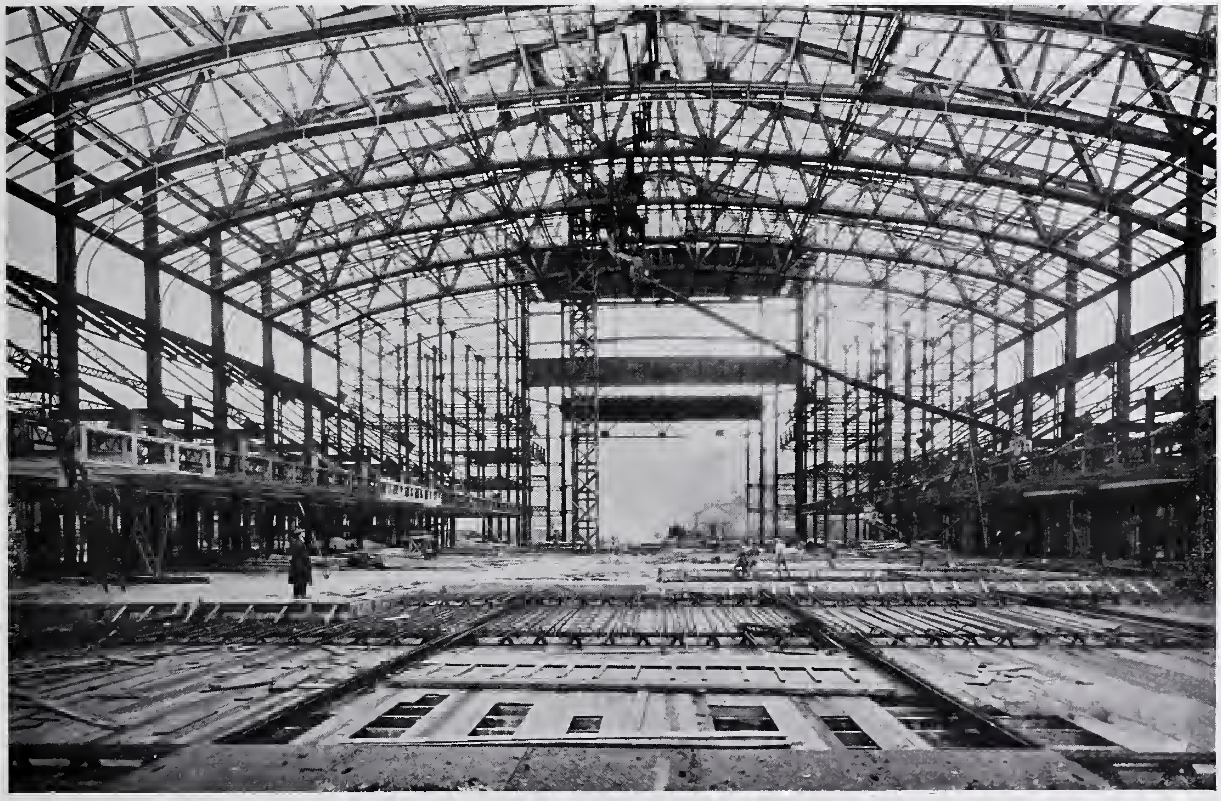
FLOOR PLANS OF THE CLEVELAND AUDITORIUM

J. H. MAC DOWELL, *ARCHITECT.* F. R. WALKER, *CONSULTING ARCHITECT* six stories in height and will include the formal lobby and some twenty convention halls, with seating capacities ranging from 300 to 1,200.

Curving runways will be built from the basement to the arena floor to take care of circus parades and pageants. It is stated that the Cleveland public hall will be able to take care of a much bigger circus audience than Madison Square Garden in New York City.

Two great steel derrick towers, movable on wooden trestles, played an important part in erecting the framework of this structure. The four trestles, two for each tower, were built within the side walls, and parallel with the longitudinal center line of the building. Upon these trestles the towers were built. On top of each tower was erected a large derrick, operated by a hoist at the tower base. The most difficult task handled by the towers was the placing of the roof trusses, each over 200 ft. long and weighing 200 tons a piece. They were put in place without trouble, however. As riveters went to work on one, the cables were removed from the derricks and anchored to the ground. The hoists then pulled themselves and the towers rearward, into position for lifting the next truss. The bottom chord of each truss came in seven sections. In placing these the center section was laid first, after which the other sections were connected and wedged up to proper elevation. When the complete chord had been bolted up and connected to the wall columns, all web members were set and finally the top chord (shipped in four sections) was set in place. The truss was then riveted complete and swung by cutting loose the blocking.

It is planned to complete the building by October 1, 1921. The total cost will be aproximately $5,000,000. The building was started during the administration of Mayor Davis and will be finished under the administration of Mayor Fitzgerald. Floyd E. Waite has served as Director of Parks and Public Property during these administrations. F. H. Betz has been succeeded by J. H. MacDowell as architect. F. R. Walker is the consulting architect.

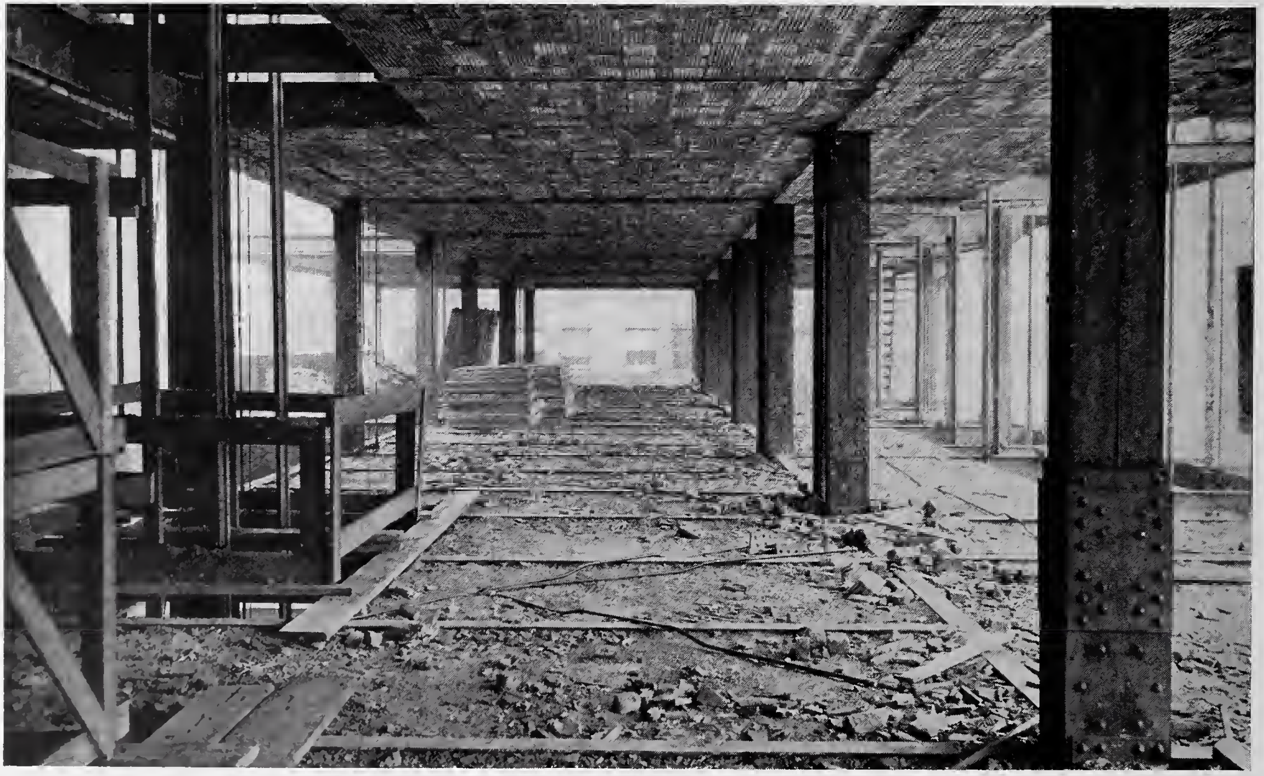


A VIEW FROM THE MAIN FLOOR DURING STEEL ERECTION

An Improvement in Hollow Tile Floor Construction

By Allan F. Owen, M.W.S.E.*

THE use of hollow tile floor arches was coincident with the erection of the first steel frame buildings and until the introduction of reinforced concrete it was universally used. The first arches to be used were of the segmental type. The fireproofing of the tie rods was an item of considerable expense and rather unsightly in appearance, the plastering of the ceiling was costly and the finished appearance unsatisfactory. In buildings of the better character a suspended ceiling was used in order to secure a flat ceiling, thus entailing a considerable added cost. The rise of these segmented arches was generally one inch per foot of span.



INTERIOR VIEW DURING CONSTRUCTION, OLD COLONY LIFE BUILDING, CHICAGO, ILL.
Note ceiling, showing an excellent surface for plastering, also small amount of debris

A later development was the flat arch, the first of which were of the side construction type, succeeded by the better end construction type. A flat arch is made up of skewbacks, voussoirs and a key. The voussoirs are standard for each depth of arch, the skewbacks vary with each depth of supporting floor beam and the keys vary with the length of the spans. The function of the key is to close the arch which is built towards the center from each supporting beam. It will be seen that in a building in which several depths of floor beams are used and several span lengths occur, there are quite a number of special tiles which are expensive to manufacture and are conducive to confusion in sorting, distributing and placing. Every tile in this type of construction has some feature which adds to the cost of its production. These arches range from ten to sixteen inches in depth and are generally set with a three-quarter inch camber. On striking the centering the mortar joints adjust themselves in such a way that the ceiling becomes practically level. This type of arch is very satisfactory for steel frame buildings.

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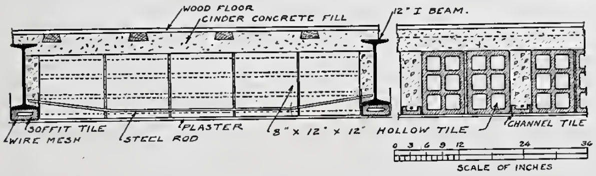
*Structural Engineer, Marquette Building, Chicago.

Economy in construction is secured by decreasing the cost of materials and labor. In making a study to develop a less expensive type of flat arch construction attention was first given to the materials. The cheapest hollow tile material is that known as partition tile which have rectangular sides and square ends as opposed to the radial joint ends of the voussoir tiles. Partition tiles are made in full and half lengths, twelve and six inches long respectively. It is obvious that a floor constructed with standard partition tile, soffit and channel tiles would be economical as to the tile material. The next element to be considered was labor. If the arch could be constructed of medium weight pieces and placed without the necessity of making accurate closures in each arch, a labor saving would be effected. The elimination of the usual three-quarter inch tie rods would also make a saving of steel and in the labor of fitting the tile about them. The cost of centering would be the same in both cases.

These factors were embodied in the design of the floor arches installed in the Old Colony Life Insurance Company building now being erected in Chicago. This building is located at 168 West Jackson Boulevard and extends through the block to Quincy street. The building was designed by C. A. Eckstorm, architect, the fireproofing erected by the T. G. Nicholson Company and the writer was structural engineer for the floor construction.

In constructing these floors an 8 x 12 x 12 in. partition tile was used in full and half lengths. The tile was laid on its eight inch face making the depth of the arch twelve inches. Two rows of tile were laid from beam to beam with cement mortar joints between all adjoining surfaces. Between these two rows of tile was placed a four inch channel tile and the space between the partition tiles filled with concrete in which was embedded a $\frac{3}{8}$-inch steel rod as shown in the design. The partition tiles were laid from the center of the span to the supporting floor beams and the skewback closure made with concrete, poured with the concrete joists and thus surrounding the tile construction with monolithic concrete on ends and sides. No provision was made to prevent the slight inflow of concrete into the tiles at the skewbacks. This was inconsiderable owing to the size and shape of the cells but is an appreciable element of strength. The soffit tile under steel floor beams had a metal fabric under it and extending up into the concrete skewback as shown. This provided a most effective anchorage for the soffit tiles.



DETAILS OF FLOOR CONSTRUCTION

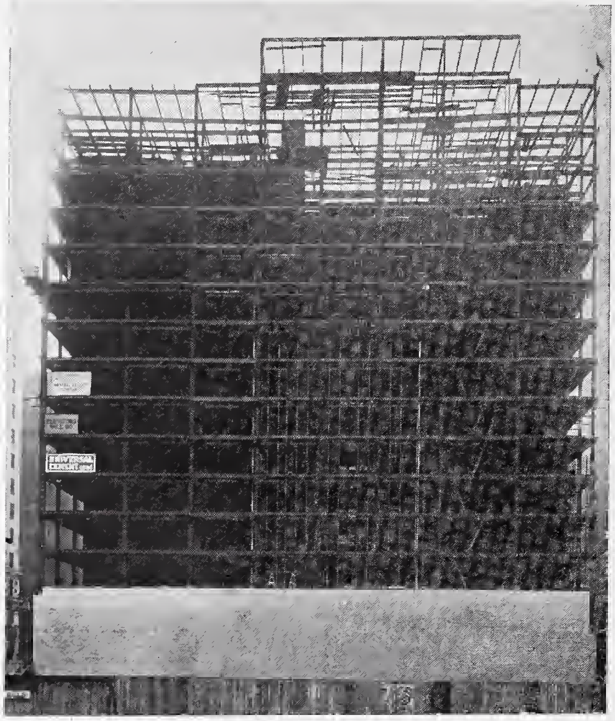
The four inch concrete joists and the $\frac{3}{8}$-inch steel rods were largely a concession to the Chicago Building Department requirements. Some few panels have been constructed with two inch concrete joists with no apparent differences in strength. When tested under the supervision of the Chicago Building Department with an applied load of 900 pounds per square foot, no deflection was indicated by the gauge. The first arches were laid with a three-quarter inch camber but no settlement took place when the centering was struck twenty-four hours after the arch was laid. The balance of the arches were laid with an one-eighth inch camber.

VIEW SHOWING CONSTRUCTION OF FLOOR ARCHES

The fine level ceiling surface secured for plastering is indicated in the illustration on the opposite page. The installation was made with unusual speed, the contractor being compelled to stop work two times to enable the steel erector to get ahead of him.

An interesting comparison of cost was made recently between a long span combination tile and concrete system of floor arches and this new short span system is a sixteen story steel frame building now under construction. Three steel floor beams were added in each bay for the short span system and this cost of steel was more than compensated for by the cheaper erection cost of tile and its erection, less reinforcing steel and yardage of concrete. The total dead load was slightly less for this system.

The advantages of this system are those relating to cost and speed of construction. The elimination of the radial jointed voussoirs, special skewbacks and keys, resulting in the use of from seven to fourteen different shapes, and the substitution of standard full and half length partition tile, standard one-size soffit and channel tiles reduces the cost of manufacturing, transportation and handling and obviates the delays due to the wrong distribution of the sizes at the building and simplifies the work of the tile setter. Patents have been applied for covering several features of this system of construction.



CONSTRUCTION VIEW, OLD COLONY LIFE BUILDING, CHICAGO, ILL.

[*Among the several departures from the usual types of building construction made necessary by the cost or scarcity of materials and labor, the above article describes an interesting improvement in methods. It also is one more indication of the facility with which plastic concrete can be used in connection with materials difficult to alter after manufacture. It is evident that the use of concrete in combination with other materials offers a field for further investigation and invention. In this case, Mr. Owen, who has had an extensive experience in the manufacture and use of hollow tile wares, has made a notable improvement in methods of hollow tile construction.—The Editors.*]

Not Educated Up to Sprayer

That architects may oftentimes be shortsighted is indicated by the following instance, which came under our observation:

A local painting-contractor had a contract for the painting of the large steel trusses of an auditorium. In this work he contemplated the use of an air sprayer as being more efficient for that type of work than brush work. The architect, learning of that intention, notified the general contractor that since the specifications did not state that a sprayer might be used, forbid that method, claiming that it was impossible to get the paint into the cracks and crevices.—December Bulletin, Associated General Contractors of America.

[*Editor's Note:—The subject of Spray Painting was treated very fully in the June* 23, 1920, *issue of* THE AMERICAN ARCHITECT.]

A Correction

Reference is made to a photograph of the Plaza Hotel on page 713 of our issue of December 1, 1920. This was in error attributed to Warren & Wetmore as the architects. Mr. H. J. Hardenburgh was the architect of the original building, while the addition is the work of Warren & Wetmore.

Publications Received

The Atlas Portland Cement Company has just published "The Atlas Handbook on Concrete Construction." This book is bound in cloth, and contains 144 pages, 4" x 6½", of solid information on concrete mixing, reinforced concrete, concrete forms, concrete building construction. The information contained in this booklet is well illustrated by 135 pictures and 40 tables. It is classified for ready reference in both a Table of Contents as well as an alphabetical index.

The chapter on concrete mixing gives valuable tables, information on methods and tests, etc. This is followed by a discussion of reinforcements, taking up beams, girders, floor slabs, etc. Bending steel reinforcements receive considerable attention. The discussion of the building of typical concrete forms is good.

Current News

Happenings and Comments in the Field of Architecture and the Allied Arts

Small House Competition for Architects

Mr. Henry K. Holsman, president of the Illinois Chapter of the American Institute of Architects and architectural adviser to the "Own Your Home" Expositions to be held in New York City and Chicago early next year, is sending to architects the general program for a "Small House Competition" which is to be conducted in connection with these two events. The Chicago exposition, as previously announced, will be held March 26 to April 2, 1921, while the New York City exposition opens April 16 and closes April 30. In explaining the purpose of this "Small House Competition" Mr. Holsman, in a letter to architects, says:

"The American Institute of Architects realizes that the architectural profession and the services it can render to society are not properly appreciated by the people, greatly to the detriment of the profession and the community.

"The architectural profession has not received as much public recognition as other professions because it has not hitherto performed as much public service. The logical way to keep the value of architectural services in the minds of the people is to do some conspicuous public good.

"The country is now confronted with a lack of private initiative in home building and home ownership. The government is beginning to realize that homeless citizens and families, whether rich or poor, are not potentially the best citizens—that every additional home owner makes an additional credit possibility, an additional property security to the nation's wealth, and an additional urge for all other forms of permanent construction.

With a view to stimulating home building and home ownership, "Own Your Home" expositions have been inaugurated to be held in various large centers to show the people the value of a good home and how to obtain it. Realizing that the majority of homes are not designed by the most competent architects, and that small house plans are not usually profitable work for the established architect, the architects will make their contribution to this movement at present in the form of a Small House Competition, program of which is herewith enclosed.

"You are invited to participate in this movement and send in the best solution of the small house problem that can be devised for your particular locality.

You will notice that the cash prizes to be awarded are considerable, and that the other prize conditions are more important to the architectural profession. The plans securing the prizes will be widely published, will be made available, complete with specifications ready for execution, at small cost to home owners, architects and builders. These plans will bear the architect's name and address so that he may receive not only compensation for every reproduction of his plan, but may be placed in contact with the builder. Furthermore, arrangements are being made to reproduce the first-prize designs in the exposition in facsimile and other prize designs in small models. One large house-furnishing store has offered to reproduce the prize designs in full size, furnished and decorated, in their store and it is expected that other stores throughout the country will do similar service.

"We trust that you will consider this matter of enough value to yourself, the profession and the public to prepare and send a design which will be the best that your combined office force can produce. If you cannot participate, will you be kind enough to hand this program to some draftsman who would be competent to participate."

The program may be had by addressing Hr. Holsman at 175 West Jackson boulevard, Chicago.

New York Society of Architects

This society held its regular monthly meeting Tuesday evening, Dec. 21, at the United Engineering Societies Building, West Thirty-ninth street, New York City, President James Riely Gordon in the chair. A full quota of members was present, and great interest manifested in the various important topics discussed.

A communication was read from the chairman of the Board of Standards and Appeals, in regard to the proposed rules requiring rat-proofing of buildings along the river fronts. After somewhat extended discussion, in which the element of humor was not lacking, the meeting, on motion by Mr. H. Holder, passed a resolution that "the society is opposed to the structural requirements under consideration before the Board of Standards and Appeals, and that this matter can be more effectually dealt with by the Board of Health, each individual householder co-operating." The discussion led to the conclusion that the good accomplished as applied to existing buildings, would not warrant the expense involved, and that there are simpler and more economical expedients, such as wire netting applied to sewers, which are largely infested by rats; the filling in with broken glass or concrete between studs of partitions, and closing up runways of these vermin, which would suffice to meet the emergency. At the same time, as regards new buildings, the proposed additional precautions might, if only in a modified form, be adopted.

In response to an inquiry from a member as to whether a corporation can practice architecture under the title of Registered Architect, the information was elicited that such practice is illegal, since the title of R. A. is conferred only upon individuals, and a corporation, even though employing registered architects, may not assume such title.

President Gordon asked for suggestions from members which might assist Senator Dunnigan's Housing Committee, and the discussion brought out the general opinion of members that reforms are necessary in the practice of dealers and manufacturers refusing to give price quotations to architects or their clients. It was pointed out that corporations doing business in the state owe a duty to the public, by whose sufferance they are permitted to do business as such, and such corporations should be placed under a legal obligation to sell to any bona fide customer at a fair market price. Material men and dealers at present will not quote prices to anyone except contractors in their particular or affiliated line. This ignorance of costs prohibits the architect from giving a comprehensive estimate to prospective investors, entailing a loss of prestige and confidence in the architect. Another point brought out was the wasteful methods encouraged by the rules of the labor unions, which make necessary a great deal of work in the field which could be done in the shop at half the cost.

The idea of the open shop was strongly favored by the meeting, as being thoroughly American, and in accord with the principle that the right to work shall not be denied to any man.

The Society deplored the fact that there does not appear to be a man in public life who has courage to uphold the right of the individual as against combinations, whether of capital or labor. This same principle of class interest appears to dominate the commercial life of the community, to the grievous limitation of individual liberty.

Severe comment was also made upon the fact that architects as a class have been the chief sufferers from the conditions which have prevailed for some time past. The term architect in its original and strictly correct meaning signifies Master Builder. As such the man who bears that title ought to be able to control all classes and interests included in the domain of building construction. As a matter of fact, however, the architect is held to be of little account in these days, and as to compensation for his services—essential to the welfare of the community as those services are—he is probably the most poorly paid of all professional men: the average employee in an architect's office receiving perhaps about the same pay as a common laborer on the building he designs and superintends.

A 2,000-Year Old Definition of an Engineer

In a recent address before the Western Society of Engineers, Mr. John W. Alvord, past president of the society, gave a definition of an engineer made by Marcus Vitruvius, who wrote 150 years B. C.

"He should be a good writer, a skillful draughtsman, versed in geometry and optics, expert at figures, acquainted with history, informed on the principles of natural and moral philosophy, somewhat of a musician, not ignorant of the sciences, both law and physics, nor of the motions, laws and relations to each other of the heavenly bodies. * * * Moral philosophy will teach him to be above meanness in his dealings and to avoid arrogance. It will make him just, compliant and faithful to his employer, and what is of highest importance, it will prevent avarice gaining an ascendency over him, for he should not be occupied with thoughts of filling his coffers, nor with the desire of grasping everything in the shape of gain, but by the gravity of his manners and a good character, should be careful to preserve his dignity."

The Architectural League of Indianapolis

The Architectural League of Indianapolis is a new organization based upon that of the Architectural League of New York City, with some changes that were considered necessary to adapt it to local conditions.

Charter membership is still open as it is hoped to reach everyone personally who might be interested or benefited by an organization of this character.

It is the purpose to bring about a closer association and co-operation of the architects, sculptors, landscape architects, draftsmen, painters, decorators, and all the allied artisans.

Arrangements have been made whereby the League will have use of lecture and class rooms at the John Herron Art Institute. The League is responsible for the local atelier of the Beaux-Arts Institute of Design, which has a following of about thirty-five students. Courses have been arranged in Architecture and Interior Decoration. Beginners will have a special class to train them in the elements of design to prepare for Beaux-Arts problems.

An interesting course of lectures is planned for the winter. Several small exhibitions will be held and later it is hoped that some large exhibition of local work may be arranged for and advantage taken of some of the large traveling exhibits.

The League is a post-war effort to revive interest in artistic organization and to increase public appreciation of the arts. All lectures are open to the public. The secretary of the League would be glad to correspond with other organizations, for the purpose of exchanging ideas which would be of mutual benefit, and to learn of possible lectures and exhibits.

Billions for Construction in 1921

Early resumption of home building and other forms of construction is assured if reports of contemplated building projects may be taken as a criterion for the coming year.

These reports show that contemplated building projects for the territory north of the Ohio River and east of the Missouri will probably reach the tremendous amount of $4,800,000,000, which under normal conditions would indicate actual construction during 1921 of approximately $3,200,000,000.

The low lumber market now prevailing paves the way for a big reduction in building costs. Thousands upon thousands of homes, so badly needed, will be built under these conditions. This will necessarily call upon thousands of men from all trades for the production of building materials.

Such demands will naturally lead to steady production and universal employment which in turn will make for better business activity and general prosperity.

Largest Concrete Building

The largest concrete building yet erected on Manhattan Island is now being built at 395 Hudson street, New York. The building, partly an 11-story office building and warehouse and partly a five-story and basement warehouse, will occupy the entire block surrounded by Hudson, West Houston, Greenwich and Clarkson streets. The construction will cover an area 338 by 200 feet and will be throughout of reinforced concrete with the exception of a veneer of brick on the exterior walls. McKenzie, Voorhees & Gmelin are the architects. The work is being done by the Turner Construction Company.

This operation furnishes a most interesting side light on the trend of building design in the greater city. For many years it has been an accepted fact that reinforced concrete was an ideal building material for industrial buildings, but loft buildings, apartment houses, office buildings and institutional buildings have still been built almost exclusively of structural steel, brick, stone and terra cotta. With the present labor and material price situation, the economy in favor of reinforced concrete is so big that many people, who through prejudice or inertia, had refused to consider reinforced concrete, are now turning to this material as the only way out of their difficulties.

The building is of a type which up to a year or so ago, would have been built of structural steel. To-day it is going ahead, the largest building of its kind, or reinforced concrete without any structural steel involved at all. There are many office and loft buildings, twelve stories or less in height, which could be efficiently, economically and expeditiously built of reinforced concrete at this time. This building will be occupied by the Western Electric Co. and the New York Telephone Co.

The American Standard of Living

Much is said about an American standard of living, remarks the Boston *Transcript* editorially. Much is said of the necessity of minimum wage scales in industry. It is time that there should be some well-formulated ideas as to what constitute an American standard of housing, especially in the congested districts of the great cities. Of what avail is it to erect hospitals and maintain clinics for the treatment of the sick if disease is to spread and multiplied in its extent by the overcrowding of tenements? How much permanent good will follow efforts at combating vicious tendencies in city life, if many thousands of city dwellers are deprived of any semblance of decent privacy in their living quarters, and if the lure of the streets is enhanced by the lessening of home accommodations, already, in many cases, pitifully inadequate?

It is questions such as these that are evidently making strong impression upon the minds of judges who hear cases involving the meaning or the validity of laws passed during the present crisis. These laws are emergency measures. But back of them is the fact that, while there may be only temporary need of drastic measures such as have recently been enacted, there is urgent and permanent need of the maintenance of an American standard of housing, in accomplishing which a well-considered and reasonable body of law, of course, will be essential.

Personals

Charles K. Cummings, architect, is located at 8 Beacon street, Boston, Mass., formerly of 6 Joy street, that city.

W. D. Johnson & Co., architects, have changed their firm name from Johnson & Burns to the above. They are situated at 174 Bond street, Hartford, Conn.

Bruno Wozny, architect, formerly located at 381 Main street, Springfield, Mass., has moved to 94 State street, that city.

Marshall J. Smith, architect, has opened new offices at 411-412 Oxford Building, Washington, D. C.

William C. Noland, architect, has become located at the Old Dominion Trust Building, Ninth and Main streets, Richmond, Va. Mr. Noland formerly was a member of Noland & Baskerville, architects, of the same city.

Simpson & Githens, architects, moved from room 833, Reibold Building, Dayton, O., to room 869 of the same building, for the larger quarters the latter affords.

News from Various Sources

Of the 110,000,000 citizens of this country, 45,000,000 are physically imperfect, 15,000,000 die annually, 3,000,000 are in bed all the time, and 1,000,000 have tuberculosis. Only 37,500,000 are fairly healthy, and only 19,500,000 are in full vigor. There are more persons in the insane asylums in this country than in the colleges and universities, and it costs more to maintain the former than the latter.

* * *

The Illinois Legislature will be asked to provide a total of $8,000,000 for the new state hospital in Chicago. A million dollars have already been appropriated, the foundations have been laid and bids are being received for the construction. Frank I. Bennett, director of public works for the state, has the matter in charge.

* * *

The new Ambassador Hotel, at North State and Goethe streets, is scheduled to open in mid-December. A legal dispute is now being waged as to the use of the name "Ambassador." The Hotel Sherman Company owns the new Chicago hotel, and the Ambassador Hotel organization objects to the local use of the name.

Interest in the "Own Your Home Expostiion," to be held at the Coliseum, March 26 to April 2, is increasing. Practically all exhibition space has been sold, it is announced.

* * *

Addressing itself to the proposition, "Is Chicago a Jay Town," the Chicago Tribune says editorially: "Architecturally we are anarchy, lacking the unity and harmony and high standards which stamp with character all the great cities of the world—even nouveau New York."

* * *

Sweden may spend $2,500,000 to establish wireless communication with the outside world, especially with the United States.

* * *

The largest industrial eating place in the world, capable of feeding 3,100 persons at one time, is operated at the Westinghouse plant in Pittsburgh.

* * *

President Wilson's annual message, transmitted to Congress Dec. 7, recommends revision of tax laws, economy in Government, a "workable" budget system, a loan to Armenia, independence of the Philippines, rehabilitation and training of disabled soldiers and efforts to reduce cost of living.

* * *

Senate, Dec. 7, received and referred approximately 17,000 nominations, chiefly those made during recess of Congress. They included officials of all ranks and about 15,000 army nominations.

* * *

Senator Knox, for Senator McCormick (R.), Dec. 7, introduced a bill reorganizing the executive departments and various Federal agencies.

* * *

Senator Kenyon (R.), Dec. 7 introduced a bill to create a department of public welfare.

* * *

Representative Rogers (R.) introduced a bill, Dec. 7, providing for co-ordination of functions of War Risk Insurance Bureau, Public Health Service and Federal Board for Vocational Training to be combined in a bureau of veteran re-establishment of Interior Department.

A Correction

In the article on Post-War Housing in our issue of December 22, page 817, it was stated that only about three per cent. of all building in this country is designed by architects. This is a typographical error, as the correct amount in value should be 73 per cent.

In our issue of Dec. 15, page 787, the President of the Cleveland Cliffs Iron Co. should have been noted as W. G. Mather. Mr. George W. Maher was consulting architect.

W. F. Dominick, Architect, N. Y.

The Outside Timbers and Boarding of this House are *stained* with

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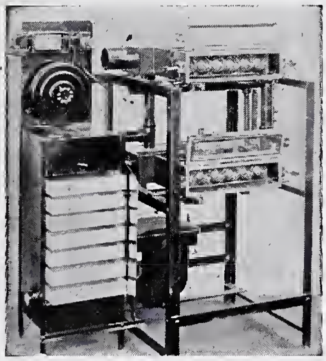

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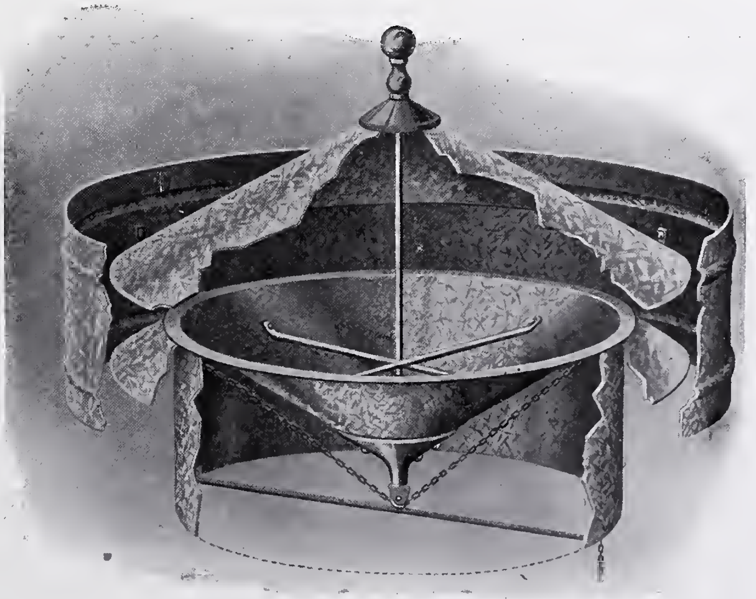

See Sweet's Catalog, pages 565, 566, 567, *and* THE AMERICAN ARCHITECT *Specification Manual,* 1920 *Edition, pages* 47 *and* 48.

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BUILDING NEWS

ALABAMA.

Albany, Ala.—City plans election to vote on $200,000 bonds to build school and city hall. E. C. Payne, mayor.

CALIFORNIA.

Burbank, Cal.—Linoleum & Window Shade Co. having plans prepared for 42 x 201 ft. main building, 25 x 25 ft. warehouse and 20 x 30 ft. office. $50,000.

Lancaster, Cal.—Trustees Antelope Valley High School Dist. received bids constructing 2 rein.-con. high schools here. $152,417.

Los Angeles, Cal.—Ambassador Hotel Co., c/o Alexandria Hotel, 210 West 5th St., will build hotel, theatre and garage. $350,000.

Los Angeles, Cal.—St. John's Episcopal Church having plans prepared by B. C. Goohue, archt., and engr., 2 West 47th St., New York City, for brick and stone church on Figueroa and Adams Sts. $500,000.

COLORADO.

Johnstown, Col.—Bd. Educ. will build 2 story, 140 x 140 ft., rein.-con., brick and steel high school. $82,000.

CONNECTICUT.

Glastonbury, Conn.—School Bd. plans to build 2 story, 12 room, grammar school. $100,000.

Hartford, Conn.—Our Lady of Sorrows Church, 85 New Park Ave., had plans prepared by O'Connell & Shaw, archts., 18 Boylston St., Boston, and receives bids in spring, building 1 story, 75 x 170 ft., brick and stone church on New Park Ave. and Grace St. $250,000. H. Galven, pres.

New Britain, Conn.—State Bd. Educ., Hartford, having plans prepared by G. C. Betelle, archt., 2 Lombardi St., for dormitory, at State Normal School. $900,000.

New Britain, Conn.—Masonic Order, Elton Pl., having revised plans prepared by M. J. Unkelbach, archt., 162 Main St., for 7 story, 110 x 210 ft., concrete, brick and steel temple on North Main St.

New Haven, Conn.—A. Perlroth, 865 Chapel St., plans to construct fireproof business building on Chapel and State Sts. $250,000.

Norwalk, Conn.—M. Joselovsky, 41 Seaview Ave., East Norwalk, plans to remodel music-hall, on South Main St., here. $75,000. H. W. Mather, Hartford Bldg., archt.

Hartford, Conn.—A. Goldstein, 593 Windsor St., having plans prepared by F. C. Walz, archt., 407 Trumbull St., for 1 story, brick and steel garage, on Morgan St. $50,000.

DISTRICT OF COLUMBIA.

Washington, D. C.—Dist. Comrs. will build Woodridge-Langdon School. $165,111.

FLORIDA.

Tampa, Fla.—Southern Florida Fair Assn., Penn. Telephone Bldg., having plans prepared by Logan Bros., archts. and engrs., 305 Dawson-Thornton Bldg., for 2 story, 50 x 225 ft. concrete exhibit at Fair Grounds. $75,000.

St. Petersburg, Fla.—Williams-Beers Ice Co. having plans prepared by H. Beers, engrs., St. Petersburg, for ice plant. $100,000. H. Williams, pres.

GEORGIA.

Augusta, Ga.—Y. M. C. A., Greene and 9th Sts., plans to build 4 story, rein.-con., limestone and brick. $300,000. Murphy & Dana, 331 Madison Ave., New York City, archts.

Rome, Ga.—Towers & Sullivan Mfg. Co. plans to build 1 story, rein.-con., steel and brick machine shop. $75,000.

ILLINOIS.

Area, Ill.—Catholic Archdiacesam of Chicago will construct 3 story, 160 x 200 ft. dormitory, 1 and 2 story, 100 x 100 ft. power house, 2 story, 57 x 160 ft. lecture hall, 1 story, 80 x 80 ft. and 42 x 100 ft. refectory, 2 story, 60 x 100 ft. warehouse, 2 story, 96 x 136 ft. convent hall, all rein.-con. Future additions will comprise dormitory and faculty house, administration building, library, auditorium, gymnasium, laundry, greenhouse and garage. There will also be 60 x 140 ft. rein.-con. church, cost $500,000. All buildings when completed will cost about $10,000,000. J. W. McCarthy, 139 North Clark St., Chicago, archt.

Champaign, Ill.—W. E. Frawley, 409 West Clark St., having plans prepared by Z. T. Davis, archt., 64 East Van Buren St., Chicago, for 1 story, 60 x 125 ft., rein.-con. and stone church. $200,000.

Chicago, Ill.—J. S. Jenkins, 4607 Magnolia Ave., will build 2 story, 45 x 118 ft., rein.-con. and steel store, on Wilson St. and Magnolia Ave. $90,000.

Chicago, Ill.—Masonic League will build 4 story, 125 x 200 ft., rein.-con. and stone temple at 6107 Cottage Grove Ave. $750,000.

Dixon,, Ill.—State Dept. Pub. Wks. & Bldgs., Springfield, will build 2 hospitals here. $400,000.

Elgin, Ill.—Illinois Dept. Pub. Wks. & Bldgs., Springfield, will build 2 story hospital, 50 x 150 ft., with 2 wings each, 1 story,, 30 x 100 ft., rein-con. and brick. $122,000.

Evanston, Ill.—First Baptist Church having plans prepared by Tallmadge & Watson, archts., 189 West Madison St., Chicago, for 1 story, rein.-con. and steel church. $175,000.

Hillsdale, Ill.—Bd. Educ. receives bids in February building high school. $75,000. Cervin & Horn, 310 Safety Bldg., Rock Island, archts.

Moline, Ill.—Sacred Heart Parish, 419 East 11th St., plans to build 1 story, 40 x 85 ft., rein.-con. and stone church. About $200,000. Z. T. Davis, 64 East Van Buren St., Chicago, archt.

INDIANA.

Hammond, Ind.—Bd. Educ. plans to build 2 story, 100 x 150 ft., brick and stone school. $400,000. J. T. Hutton & Son, Hammond, archts.

Hartford City, Ind.—Comrs. Blackford Co. plan to build 2 story, 75 x 100 ft., brick and stone hospital. $85,000. E. H. Turnock & Son, Elkhart, archts.

Indianapolis, Ind.—Park Bd. plans to build 2½ story, 75 x 140 ft., rein.-con. hollow tile and stucco clubhouse in Riverside Park. $100,000. J. Parish, City Engrs. Dept., City Hall, archt.

KANSAS.

Eldorado, Kan.—City will build 1 story, 67 x 137 ft. memorial auditorium. $63,500.

Wichita, Kan.—G. Theis, Jr., Schweiter Bldg., plans to build 14 story, 150 x 150 ft. office at 113 North Lawrence St. $500,000.

LOUISIANA.

Bastrup, La.—L. H. Fox will construct reduction plant, to include three 2 story, 50 x 200 ft. buildings, rein.-con. and steel and four 1 story, 30 x 60 ft. buildings, wood and steel. $200,000.

MARYLAND.

Baltimore, Md.—W. E. Hooper & Sons Co., Parkdale Rd., will build 2 and 1 story, 28 x 34 ft. and 12 x 49 ft., concrete, brick and steel machine shop additions on Parkdale Rd. and Druid Hill Park. $60,000.

Baltimore, Md.—Union Trust Bldg. Co., Fayette and Charles Sts., having plans prepared by J. Pennington, archt., 330 North Charles St., for 2 story, 100 x 250 ft., brick and steel addition. $75,000. J. M. Dennis, pres.

Baltimore, Md.—St. Mary's Industrial School, Wilken Ave., will build 3 story, 65 x 166 ft. stone school, to J. J. Moylan. $500,000.

Rockville, Md.—International Shoe Heel Corp. having plans prepared by H. C. Cutler, archt. and engr., Mutual Fire Bldg., 13th and H Sts., Wash., D. C., for four 1 story, 35 x 200 ft. heel shops and two 4 story, 45 x 200 ft. shoe shops, concrete. $350,000.

MASSACHUSETTS.

Dorchester, Mass.—I. Lesser, 3 Fayston St., Roxbury, will build 1 story, 100 x 125 ft., brick and concrete garage on Mt. Vernon St., here. $40,000.

Westboro, Mass.—Architect John William Donohue, Springfield, Mass., has been selected to formulate plans for a new brick church with sand stone trim for St. Luke's R. C. Parish, Westboro, Mass. Rev. J. D. McGann, rector. Church will seat 850 people and cost about $125,000. Drawing plans. Work will be started in spring.

MICHIGAN.

Detroit, Mich.—Palestine Assn., 510 Fort St., having plans prepared by A. E. Harley, archt., care of Com. of Architects, 2631 Woodward Ave., for 10 story, 150 x 180 ft., rein.-con., brick, stone and steel lodge on Charlotte St. $2,000,000.

Detroit, Mich.—Tatli & McKay, care of P. R. Rossello, archt., 406 Congress Bldg., having plans prepared for 2 story, 123 x 146 ft., rein.-con., brick and steel theatre on Shoemaker and Hurlbut Aves. $150,000.

Detroit, Mich.—Library Comn., Library Bldg., will build 2 story, concrete, brick and steel library on Waterman and Fort Sts. Stratton & Snyder, archts., Union Trust Bldg. $75,000.

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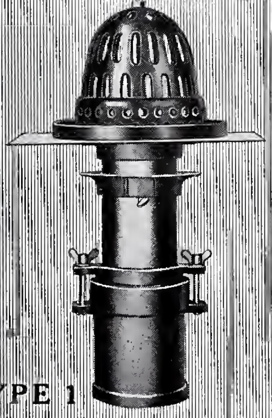

TYPE 1

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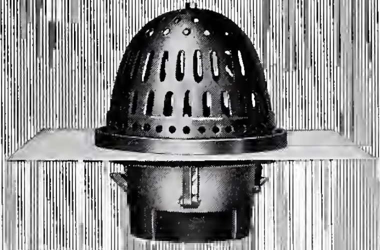

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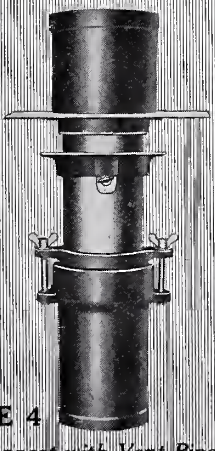

TYPE 4

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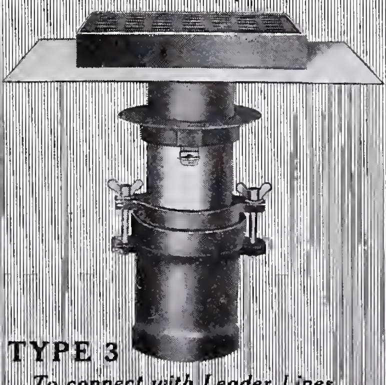

TYPE 3

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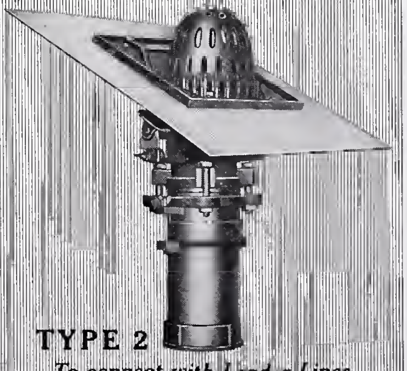

TYPE 2

To connect with Leader Lines Steep Surface

Grand Rapids, Mich.—Catholic Central High School having plans prepared by H. L. Mead, archt., Grand Rapids, for 4 story, rein.-con., brick and steel high school. $300,000.

Lansing, Mich.—Michigan State Industrial School, East Lansing St., plans to construct new institution, comprising 36 buildings. F. M. Landon, ch. engr.

Marquette, Mich. — Kawbawgam Hotel Co. will build 7 story, 60 x 124 ft., concrete, brick and steel hotel on Front St., to W. G. Miller, Marquette. $300,000.

Ontonagon, Mich.—First Natl. Bank having plans prepared by A. Moorman & Co., archts., Chamber of Commerce Bldg., St. Paul, for 2 story, 32 x 70 ft., rein.-con., brick and tile bank. $80,000. B. F. Barze, cashier.

River Rouge, Mich.—Bd. Educ., c/o A. R. Heuer, will build 3 story, rein.-con., brick, steel and stone high school on Dearborn Rd. $1,000,000.

Wakefield, Mich.—City having preliminary plans prepared by Herbst & Kuenzli, archts., Caswell Blk., Milwaukee, Wis., for 2 story, concrete, brick and steel memorial. $250,000.

MINNESOTA.

Minneapolis, Minn.—Bd. Educ. having plans prepared by E. R. Enger, archt., 305 City Hall, for Nokomi Junior High School, 2 or 3 story, rein.-con., brick, steel and tile, on 20th Ave. S. and 41st St. $700,000.

Minneapolis, Minn.—M. Beck, 1564 Bway., New York City, will build 40 x 140 ft. and 115 x 180 ft., rein.-con., brick and steel theatre on 9th and Hennepin Aves. here. $600,000.

Sherburne, Minn.—Bd. Educ. plans to build 2 story, rein.-con., brick and tile high school. $85,000. J. Schott, clk.

Wayzata, Minn.—Bd. Educ. will build 1 story, 200 x 200 ft., concrete, slab, stucco and tile school. $134,915.

MISSOURI.

Kansas City, Mo.—St. Lukes Hospital, 45th St. and Warnall Rd., will build 6 story, 40 x 190 ft., rein.-con. and brick hospital. $450,000.

NEW JERSEY.

Camden, N. J.—Bd. Educ. plans to build 12 room addition to Yorkship Village school; 16 room addition to school, on 32nd St.; 6 room addition to Whittier school.

East Orange, N. J.—C. B. Comstock, archt. and engr., 110 West 40th St., New York City, will build 3 story top addition to present building and 5 story side addition, rein.-con., steel and brick, here, for Ward Baking Co., South Blvd. and St. Marys St., New York City.

Jersey City, N. J.—States Theater Corp., Sinisi Bldg., plans to construct theatre and office building on Bergen Ave. and Newkirk St. $200,000.

Newark, N. J.—Salaam Temple of Mystic Shrine, 165 Market St., plans to build 3 story, 129 x 225 ft. auditorium on Broad St. $1,000,000. M. W. Beemer, 101 Halsey St., engr.

Phillipsburg, N. J.—Bd. Educ. had plans prepared by Ritcher & Eiler, archts., 33 North 6th St., Reading, Pa., for Brensinger School, 2 story. $150,000.

NEW YORK.

Brooklyn, N. Y.—Brooklyn Eye & Ear Hospital, 94 Livingston St., having sketches made by Crow, Lewis & Wick, archts. and engrs., 200 5th Ave., New York City, for 7 story, 100 x 200 ft., brick, steel and stone hospital on Cumberland St., Carlton and Greene Aves.

Brooklyn, N. Y.—Victory Operating Co., c/o S. Millman, archt., 26 Court St., will build 1 story, 115 x 140 ft., brick and steel garage on Parkside Ave. between Rogers and Nostrand Aves. $45,000.

New York, N. Y.—Ballinger & Co., archts. and engrs., 329 South Broad St., Phila., Pa., building 3 story, brick warehouse, at 68 Charlton St., here, for J. D. Johnson, 139 North 7th St., Phila. $100,000.

New York, N. Y.—Pub. Welfare, Municipal Bldg., proposes repairs and additions in new elevator storehouse, on Blackwells Island. B. S. Coler, comr.

New York, N. Y.—United Electric Light & Power Co., 130 East 15th St., will build power house, on 134th St. and East River. $4,500,000.

Yonkers, N. Y.—La Rabida Council, K. of C., 107 South Bway., having plans prepared by B. Werner, archt., 107 South Bway., for 3 story clubhouse on South Bway. and St. Mary St. About $100,000.

NORTH CAROLINA.

Andrews, N. C.—F. P. Cover & Sons, recently incorporated with $1,500,000 capital stock, plan to build tannery.

Asheville, N. C.—City plans to issue $500,000 bonds to build one 16 room, two 14 room, one 12 room and one 8 room schools. W. H. Lord, Asheville, consulting engr.

Asheville, N. C.—Y. M. C. A., 2 West 45th St., New York City, soon receives bids constructing brick and stone building, here. $200,000. Jallade, Lindsay & Warren, 129 Lexington Ave., New York City, archts.

Canton, N. C.—City voted $85,000 bonds to build new high school.

East Durham, N. C.—East Durham Baptist Church plans to build 2 story, brick and stone church. $75,000. C. W. Carlton, Chattanooga, Tenn., archt.

Gastonia, N. C.—Arkray Mills let contract building 2,000 spindle cotton mill, rein.-con. and steel. $750,000.

Henderson, N. C.—City vote $100,000 bonds to build school.

High Point, N. C.—High Point Twp. will vote on $600,000 bonds to build central high school.

Langdon, N. D.—Cavalier Co. and other organizations plan to build 3 story, soldiers' memorial hospital, concrete, brick and steel. $200,000.

OHIO.

Akron, O.—City Council authorized issuance of $200,000 to purchase site on Cherry St., for market house. $500,000.

Akron, O.—J. Eberson, archt., 64 East Van Buren St., Chicago, Ill., soon lets contract building 10 story, 133 x 225 ft., rein.-con. theatre for Akron Prospect Co., here. $1,250,000.

Cleveland, O. — St. Wensislaus Church, c/o J. W. Koudelka, pastor, 2666 East 35th St., having plans prepared by E. Uhlrich, archt., 8616 Carnegie Ave., for 2 story, rein.-con., brick and steel church and school on Libby Rd. $100,000.

Cleveland, O.—East Glenville Methodist Episcopal Church, care of E. M. Lewis, pastor, 12701 St. Clair Ave., plans campaign to raise $150,000 to build 1 story, brick, steel and stone church on Lancelot and St. Clair Aves.

Cleveland, O.—M. Gusman, care of Import Dry Specialties Co., 326 Champlain Ave., plans to build 3 story, rein.-con., brick and steel commercial on Prospect Ave. and East 30th St. $300,000.

Cleveland, O.—Realty Syndicate Co., care of F. Riley, 309 Williamson Bldg., will construct 4 story, 116 x 240 ft. commercial building and garage, rein.-con., brick and steel on East 79th St. and Hough Ave. $300,000. J. M. Dyer, Ulmer Bldg.

Cleveland, O.—Peacock-Inn Co., c/o H. Lee, 304 Superior Ave., having plans prepared by Serv. Constr. Co., archts., 6110 Euclid Ave., for remodeling 1 story, marble and iron restaurant at 2010 Euclid Ave. $100,000.

Cleveland, O.—Bd. Educ., East 6th St. and Rockwell Ave., had plans prepared by W. R. McCornack, archt., East 6th St. and Rockwell Ave., 1 story, 210 x 350 ft., rein.-con., brick and steel school on Diana and Darley Aves. $750,000. F. Hogan, clk.

Cleveland, O.—Bd. Educ., East 6th St. and Rockwell Ave., having plans prepared by W. R. McCornack, archt., East 6th St. and Rockwell Ave., for 1 story, rein.-con., brick and steel school on Broadview Ave. and Spring Rd. $750,000. F. G. Hogan, clk.

Cleveland, O. — M. Makof, 3533 Woodland Ave., plans to build 15 story, 50 x 130 ft., rein.-con., brick and steel theatre at 1882 East 9th St. $2,000,000.

Cleveland, O.—B. F. Keith Theatre Co., 1564 Bway., New York City, will build 20 story, 130 x 180 ft., rein.-con., brick and steel theatre and office, on East 17th St. and Euclid Ave. $3,000,000.

Conneaut, O.—Bd. Educ. having preliminary plans prepared by Bartholomew, McCullough & Smith, archts., Ferguson Bldg., Pittsburgh, Pa., for 12 story, 200 x 250 ft., fireproof high school on Watson St. $350,000.

De Graff, O.—Bd. Educ. plans to build 2 story, 120 x 125 ft., rein.-con. and brick school. $160,000. G. R. Walker, Conover Bldg., Dayton, archt.

Elyria, O.—S. Jardis will build 1 story, 90 x 165 ft., rein.-con., brick and steel theatre on Broad St. $100,000.

Findlay, O.—Comrs. Hancock Co., having plans prepared by Glass & Austin, archts., Gas Co. Bldg., Columbus, for 2 story, 40 x 110 ft., brick and concrete children's home. $100,000.

Lakewood, O.—Bd. Educ., Warren Rd., received bids for building 2 story, 70 x 210 ft., rein.-con. brick and steel school on Jackson Ave. and Clifton Blvd. Tenbusch-Parker Constr. Co., 1836 Euclid Ave., Cleveland, $288,122; Witters Co., Canton, $290,500.

Steubenville, O.—G. Shafer, 1103 Chapline St., Wheeling, W. Va., purchased site here, and plans to build 3 or 4 story theatre. $300,000.

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Toledo, O.—The Holt Farm Light Co. plans the erection of a factory at Toledo.

OKLAHOMA.

Ft. Sill, Okla.—Ft. Sill will receive the following appropriations for improvements: $675,000 for new buildings, $200,000 for new tractor repair shop, $475,000 for warehouse, new roads, etc.

Miami, Okla.—G. G. Robinson having plans prepared by F. W. Hunt, archt., Miami, for 2 story, 40 x 120 ft., rein.-con., steel and brick theatre. $75,000.

Oklahoma City, Okla.—Citizens may vote early in 1921 on additional bonds of $100,000 to complete an extensive building program for the city's school system.

Shawnee, Okla.—Bd. Educ. will build 3 story, 75 x 170 ft., rein.-con., brick and steel high school to G. P. Carr, 116 North Bell St., Shawnee. $250,000.

OREGON.

Milton, Ore. — The Union High School Board sold $200,000 in bonds voted for a new high school building.

Portland, Ore. — Architects Houghtaling and Dougan, Elks' Club Bldg., Portland, have completed plans and specifications for the proposed new $1,000,000 Elks' Club Bldg.

Portland, Ore.—City Council granted a permit to Herbert Gordon, president of the Lawyers' Title & Trust Co., to erect a 1-story 100-ft. building on Flint St., near E. Broadway. Building to be of concrete; $60,000.

PENNSYLVANIA.

Danville, Pa.—Bids will be received soon by the School Board for the erection of a high school building at Danville, Pa. W. H. Lee, architect.

Elysburg, Pa.—Bids will be received soon by the School Board for the erection of a high school building at Elysburg, Pa. Wm. H. Lee, architect, Philadelphia.

Erie, Pa.—Plans have been approved for the construction of a large addition to the present county court house.

Hollidaysburg, Pa.—E. H. Brua, 319 Allegheny St., and L. A. Brua, 304 Pennsylvania St., will build 2 story, 60 x 120 ft., rein.-con. and brick garage and storage warehouse, on Blair and Union Sts.

Johnstown, Pa.—Flood City Mfg. Co., Elder St., plans to build 2 story, 80 x 200 ft., rein.-con., brick and steel plant. $250,000. J. L. Hershberger, pres.

Philadelphia, Pa.—Bids will be received for the construction of alterations and office additions for Stewardson & Page, 215-17 S. 15th St. Stewardson & Page, architects.

Pittsburgh, Pa.—The Marine Hospital in Pittsburgh will be enlarged. Money for the project will be provided by Congress. Hugh S. Cummings, Surgeon General of the Public Health Service, Washington, D. C.

Raven Run, Pa.—J. S. Wentz Co., Markle Bldg., Hazleton, plans to build frame breaker on coal tract here. $150,000. G. S. Troutman, Markle Bldg., Hazleton, engr. and archt.

Sharon, Pa.—Sharon Steel Hoop Co., South Irvine Ave., having preliminary plans prepared by J. H. Herron Co., engrs. and archts., 1360 West 3rd St., Cleveland, O., for 2 story, concrete, brick and steel factory. $150,000.

RHODE ISLAND.

Attleboro, R. I.—All Saints' Parish will proceed with plans for a new church to be erected in 1921 at a cost of about $50,000. Rev. A. E. Worman, Rector.

Pawtucket, R. I.—J. Thompson Mission, c/o R. C. N. Monahan, archt., 255 Union St., having plans prepared for 3 story, brick and steel mission on East Ave. and Pleasant St.

SOUTH DAKOTA.

Egan, S. D.—Bonds of $125,000 were recently authorized by town of Egan to provide for a consolidated school. Plans are being prepared by Scheumacher & Finkelhor, of Sioux Falls.

Mitchell, S. D.—City will build 1 story, 142 x 192 ft., rein.-con., brick and steel auditorium on North Main St. and 6th Ave. $140,450.

Philip, S. D.—Consolidated School Dist., Iowa Twp., Haakon Co., plans to build 2 story, rein.-con., brick and tile school. $75,000. N. Duryea, co. supt.

Redfield, S. D.—Citizens Com., c/o M. C. Johnson, Aberdeen, plan to build 2 or 3 story, rein.-con., brick and tile memorial. $100,000.

Rutland, S. D.—Officers of Rutland Consolidated School District sold bonds of $80,000 for the erection of a new consolidated school building.

Sioux Falls, S. D.—State Building Comn., Robinson Pierre, plans to build 2 or 3 story, rein.-con., brick and stone memorial. $200,000.

Watertown, S. D.—Bd. Educ. plans to build 2-3 story, rein.-con., brick, tile and steel high school. $250,000. M. A. Herzel, clk.

TENNESSEE.

Knoxville, Tenn.—A Moose Home for Aged members, to cost $1,000,000, will be erected near Knoxville or some point in East Tennessee. S. E. Hodges, Dictator of the Knoxville, Lodge, No. 1526.

Nashville, Tenn.—Belmont Heights Baptist Church having plans prepared by Hart & Evans, archts., Independent Lift Bldg., for 3 story church. $100,000. H. P. Jacobs, chn.

TEXAS.

Cameron, Tex.—First Methodist Episcopal Church will build 3 story, 60 x 112 ft., concrete, brick and steel church. $80,000.

Dallas, Tex.—Bd. Educ., Municipal Bldg., will build 3 story, concrete and brick high school on Haskell and McKinney Sts. $648,000.

Eliasville, Tex.—W. H. Gilmartin will construct a 2-story stone hotel at Eliasville in the A. A. Donnell addition. $60,000.

San Antonio, Tex.—A. B. Ayres, archt., Bedell Bldg., opens bids about Jan. 15, building 4 story, rein.-con., brick and stone hospital addition, on Houston St. $400,000.

UTAH.

Salt Lake City, Utah.—City will build 2 story, concrete bathhouse on 2nd Ave., to Lynch-Cannon Eng. Co., Dooly Bldg. $177,450.

Salt Lake City, Utah.—B. P. O. E. 85, 59 South State St., plan to build 6 story, rein.-con. club on South Temple St. $400,000. Scott & Welch, Dooly Bldg., archts. and engrs.

Salt Lake City, Utah.—Bd. Educ. soon lets contract building 2 story, 68 x 218 ft. Junior High School, rein.-con. and brick. F. D. Rutherford, 669 2nd Ave., archt. and engr.

VIRGINIA.

Richmond, Va. — Board of Public Works authorized an ordinance for a bond issue of $150,000 for school improvements.

WASHINGTON.

Seattle, Wash.—Goodrich Rubber Co., East Market St., Akron, O., having plans prepared by J. Graham, archt., L. C. Smith Bldg. for 5 story, 120 x 200 ft. brick warehouse on 4th St. S. and Atlantic St., here. $250,000.

Seattle, Wash.—City will build 2 story, 120 x 180 ft., rein.-con. fire station on 4th and Bell Sts. $156,313.

Seattle, Wash.—University of Washington, University Campus, having plans prepared by Bebb & Gould, archts., Securities Bldg., for 4 story, 75 x 225 ft. education hall. $330,000.

WEST VIRGINIA.

Charleston, W. Va.—Kanawha Co. having plans prepared by H. R. Warne, archt., Masonic Temple, for jail on Court and Virginia Sts. $300,000.

Huntington, W. Va.—Y. M. C. A. plans campaign in February to raise $300,000 to construct building.

Weirton, W. Va.—B. Rabinovitz receives bids about April 1 building 1 story, 50 x 132 ft., brick, terra cotta, concrete, marble and tile theatre. M. F. Gresey, German Bank Bldg., Wheeling, archt.

WISCONSIN.

Antigo, Wis.—Bd. Educ. having plans prepared by Oppenhamer & Obel, archts., Wausau, for junior high school, 2 story, concrete and brick high school. $200,000.

Chippewa Falls, Wis.—Bd. School Trustees receives bids about Feb. 1, building junior and vocational school, 2 story, 125 x 160 ft., rein.-con., brick and tile. $150,000. Beers, Schlintz & Bailey, Chippewa Falls, engrs. and archts.

Durand, Wis.—Bd. Educ. having plans prepared by Oppenhamer & Obel, archts., Wausau, for high and grade school, 2 story, concrete, brick and tile. $100,000. H. Miles, secy.

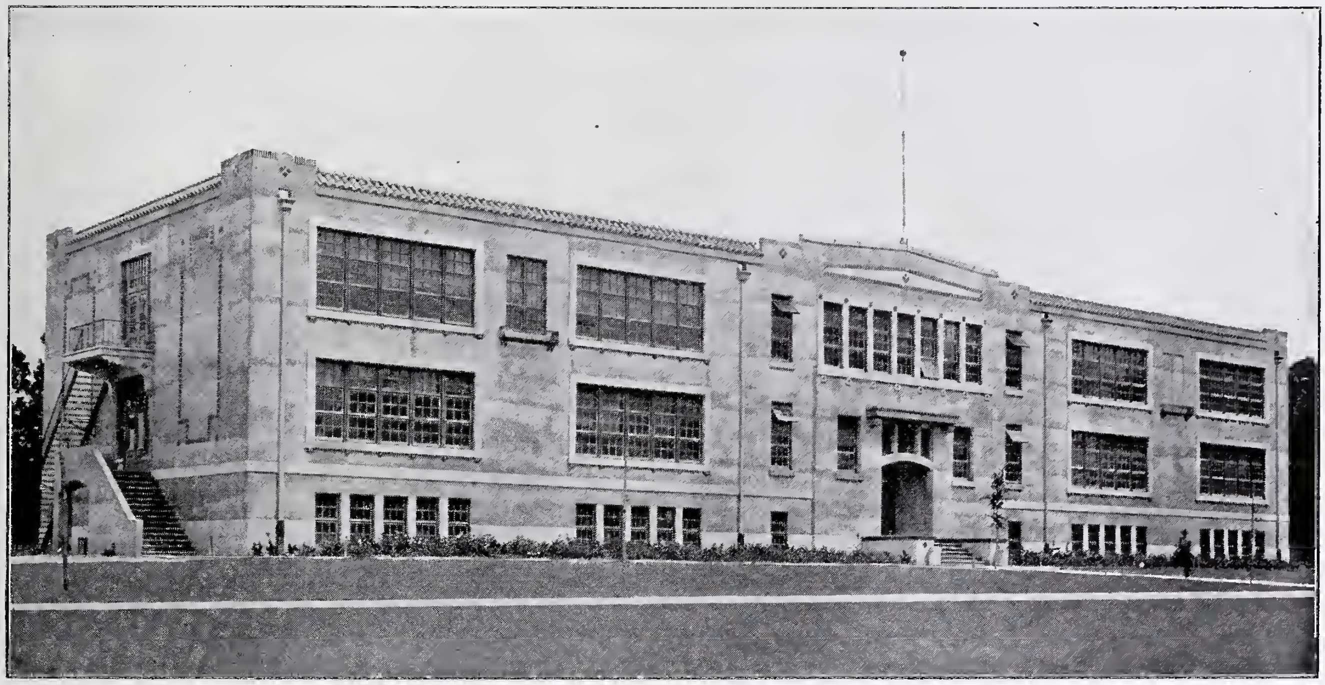
Fond du Lac, Wis.—St. Patrick's Catholic Church having plans prepared by J. F. Stepnoski, archt., 144 Marquette Ave., for rein.-con. school.

Oconomowoc, Wis. — Oconomowoc Theatre Co. will build 2 story, 70 x 115 ft., concrete and brick theatre. $75,000.

West Allis, Wis.—Bd. Educ. will build 3 story, rein-con. brick and tile high school. $431,539.

WYOMING.

Cheyenne, Wyo.—Bd. Trustee Memorial Hospital of Laramie Co., Masonic Temple, will build Frances Warren Pershing Memorial Hospital, 50 x 180 ft. $300,000.



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ARCHITECTS—MARK and SHEFTALL, Jacksonville, Fla.

The Live Oak High School is thoroughly modern in design, in materials, and in equipment. Therefore, the selection of a roof was governed by the conditions to be met. Since the application was over concrete, a Carey 5-Ply specification, designed for service over concrete, was used.

No one Carey roof is offered to fit all conditions, but instead the architect selects from the Carey specifications that roof which will give the best service, considering the type of building, pitch of roof, and other factors. The Carey specification book will be gladly sent upon request.

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Carey ROOFINGS

ASBESTOS AND ASPHALT BUILT-UP ROOFS—ROLL ROOFINGS AND ASFALTSLATE SHINGLES

Arch. 1-21

SEE OUR CATALOGUE IN SWEET'S

DIGEST

Of Manufacturers' Data

ARCHITECTS' OFFICE EQUIPMENT

INKS:

Higgins, Chas. M., & Co., 271 9th St., Brooklyn, N. Y.

PASTES:

Higgins, Chas. M., & Co., 271 9th St., Brooklyn, N. Y.

PENCILS:

Dixon Crucible Co., Jos., Jersey City, N. J.

BAKERY EQUIPMENT AND MACHINERY

Read Machinery Co., York, Pa.

BRICK

Bradford Brick Co., Bradford, Pa.

CASEMENT WINDOWS

METAL:

Crittall Casement Window Co., Detroit, Mich. Crittall metal casement windows for office buildings, banks, public buildings, churches, university buildings, hospitals, residences, stores, factory offices, etc.

CEMENT AND PLASTER

CEMENT:

Atlas Portland Cement Co., The, 30 Broad St., N. Y. C. Manufacturers of Atlas Portland Cement and Atlas-White Portland Cement. Sales Offices: Chicago, Philadelphia, Boston, St. Louis, Birmingham, Des Moines, Dayton. Mills: Northampton, Pa.; Hudson, N. Y.; Hannibal, Mo. Sales Manager, C. A. Kimball.

CORNER BEADS:

Concrete Engineering Co., Omaha National Bank Bldg., Omaha, Neb.

PLASTER:

Best Bros. Keene's Cement Co., Dept. C, Medicine Lodge, Kan., New York, Chicago. "Regular" for base and finish coats, general plastering; "Fine" for all ornamental plastering; Caen stone, etc.; "Coarse" and "Superfine" for art marble.

National Kellastone Co., Chicago, Ill.

SPECIALTIES:

Concrete Engineering Co., Omaha National Bank Bldg., Omaha, Neb.

Truscon Steel Co., Dept. 68, Youngstown, Ohio. Representatives in principal cities. Corner beads, "Kahn" curb bars, "Truscon" slotted inserts; "Kahn" adjustable inserts, "Trus-Con" National socket inserts, "Kahn" elastic filler and armor plates for expansion joints.

STUCCO:

American Materials Co., New York, N. Y.

National Kellastone Co., Chicago, Ill.

Wisconsin Lime & Cement Co., Chicago, Ill.

CLOCKS

Manufacturing and Sales Corp., 40 Cedar St., N. Y. C. Fowler electric clocks, master clocks, secondary clocks, program clocks, time recorders and time stamps.

Seth Thomas Clock Co., Thomaston, Conn. Secondary clocks for schools, factories, public buildings, residences, etc. Offices, New York, Chicago, San Francisco.

COLUMNS

WOOD:

Hartmann-Sanders Co., Chicago, Ill.

CONCRETE REINFORCEMENT

BEAM CAGING:

Mitchell-Tappen Co., 15 John St., N. Y. C. S. M. C. for the concrete protection of steel beams, girders and columns.

REINFORCEMENT:

American Steel & Wire Co., Chicago and N. Y. C.

Concrete Engineering Co., Omaha National Bank Bldg., Omaha, Neb.

North Western Expanded Metal Co., 911 Old Colony Bldg., Chicago, Ill.

Truscon Steel Co., Dept. 68, Youngstown, Ohio. Representatives in principal cities. "Kahn" system reinforced concrete, "Kahn" bars, "Rib" bars, "Rib" lath, "Floretyles," "Floredome," etc.; flat and beamed ceilings of all types.

DAMPPROOFING

(See Water and Dampproofing)

THIS department is intended to assist our subscribers in readily determining the names and addresses of manufacturers of products in which they may be interested together with brief data about their material.

The headings and sub-headings are arranged alphabetically and have been selected in accordance with the intent of meeting the architect's thought in preparing his specifications.

If the information desired is not found here, it will gladly be supplied by the Service Department of The American Architect.

DOORS AND TRIM

DOORS, STEEL:

Lupton's, David, Sons Co., Philadelphia, Pa.

HOLLOW STEEL DOORS:

Edwards Mfg. Co., The, 319-349 Eggleston Ave., Cincinnati, Ohio.

INTERIOR CABINET WORK:

Rugg, C. H., Co., Rochester, N. Y.

DUMB-WAITERS

Sedgwick Machine Works, 159 W. 15th St., N. Y. C.

ELECTRICAL EQUIPMENT AND SUPPLIES

CONDUITS AND FITTINGS:

National Metal Molding Co., 111 Fulton Bldg., Pittsburgh, Pa. "National" metal molding for surface wiring, "Sherarduct" and "Economy" conduits, "Flexsteel" armored cable, and a complete line of fittings.

Youngstown (Ohio) Sheet & Tube Co. "Buckeye" rigid conduit, "Realflex" armored conductor.

FIRE SIGNAL SYSTEMS:

Samson Electric Co., Canton, Mass.

FUSES and FUSE SPECIALTIES:

D. & W. Fuse Works of General Electric Co., Schenectady, N. Y.

INSULATING MATERIALS:

D. & W. Fuse Works of General Electric Co., Schenectady, N. Y. Varnish, sheeting, tape, compound.

LIGHTING SYSTEMS:

General Electric Co., Schenectady, N. Y.

OUTLET BOXES:

Hart & Hegeman Mfg. Co., Hartford, Conn.

OUTLETS:

Electric Outlet Co., 119 West 40th St., N. Y. C.

POWER PLANT EQUIPMENT:

General Electric Co., Schenectady, N. Y.

RECEPTACLES:

General Electric Co., Schenectady, N. Y.

Hart & Hegeman Mfg. Co., Hartford, Conn.

REFLECTORS (Bank Screen, Show Case and Window):

Erikson, L., Electric Co., 6 Portland St., Boston, Mass.

SOCKETS:

General Electric Co., Schenectady, N. Y.

Hart & Hegeman Mfg. Co., Hartford, Conn.

SWITCHBOARDS:

General Electric Co., Schenectady, N. Y.

SWITCHES:

General Electric Co., Schenectady, N. Y.

Hart & Hegeman Mfg. Co., Hartford, Conn.

WIRES and CABLES (Insulated):

Atlantic Insulated Wire & Cable Co., 52 Vanderbilt Ave., N. Y. C.

D. & W. Fuse Works of General Electric Co., Schenectady, N. Y.

General Electric Co., Schenectady, N. Y.

Okonite Co., The, 501 Fifth Ave., N. Y. C. "Caudee" Potheads, "Mauson" and "Okonite" Tape.

ELEVATORS AND HOISTS

CONVEYORS:

Otis Elevator Co., 11th Ave. and 26th St., N. Y. C. Gravity spiral.

ELEVATORS:

American Elevator & Machine Co., Louisville, Ky.

Otis Elevator Co., 11th Ave. and 26th St., N. Y. C. Offices in principal cities of the world. Electric hydraulic, belt and band power, inclined freight elevators and escalators.

ELEVATORS (Hand Power):

Sedgwick Machine Works, 159 W. 15th St., N. Y. C.

ELEVATOR CABLE:

American Steel & Wire Co., Chicago and N. Y. C.

HOISTS (Ash):

Gillis & Geoghegan, 545 West Broadway, N. Y. C. "The G. & G. Telescopic Hoist"; Model A, hand power, cellar to sidewalk; Model B, cellar to wagon; Model C, like A, but electric power; Model D, like B, but electric power.

Otis Elevator Co., 11th Ave. and 26th St., N. Y. C. Automatic coal and ash hoists, blast furnaces and ship hoists.

EQUIPMENT STEEL

LOCKERS AND SHELVING STEEL:

Edwards Mfg. Co., The, 319-349 Eggleston Ave., Cincinnati, Ohio.

FIREPLACES

BRICK:

Covert, The H. W., Co., 351 Lexington Ave., N. Y. C.

FIREPROOFING MATERIALS

CAGING OR FORMING:

Mitchell-Tappen Co., 15 John St., N. Y. C.

Concrete Engineering Co., Omaha National Bank Bldg., Omaha, Neb.

North Western Expanded Metal Co., 911 Old Colony Bldg., Chicago, Ill.

Truscon Steel Co., Dept. 68, Youngstown, Ohio. Representatives in principal cities. "Hy-Rib," "Rib" lath, "Diamond Mesh" lath.

FLOORS

COMPOSITION:

Barrett Co., The, 17 Battery Pl., N. Y. C. Branch offices in all large cities.

Marbleloid Co., The, Marbridge Bldg., N. Y. C.

Muller & Co., Franklyn R., Waukegan, Ill.

CORK TILE:

Armstrong Cork Co., Pittsburgh, Pa.

FLOOR TREATMENTS, CONCRETE and WOOD:

Minwax Co., 14 East 41st St., N. Y. C.

PARQUET:

Wood-Mosaic Co., New Albany, Ind. Parquetry, hardwood flooring, veneer and lumber.

WOOD:

Crooks-Ditmar Co., The, Williamsport, Pa. "Cromar" finished oak flooring.

FLOOR COVERINGS (Linoleum)

Armstrong Cork Co., Lancaster, Pa.

Congoleum Co., Inc., Morris Bldg., Philadelphia, Pa. Sales offices: Philadelphia, Chicago, San Francisco, Cleveland, New York, Minneapolis, Dallas, Boston, Kansas City and Montreal. Battleship Linoleum, Cork Carpets and Inlaid Linoleum.

FOUNDATIONS

PILES:

Raymond Concrete Pile Co., 149 Cedar St., N. Y. C. "Raymond" concrete piles are made by driving a reinforced steel shell which is left permanently in the ground. This shell is then filled with concrete.

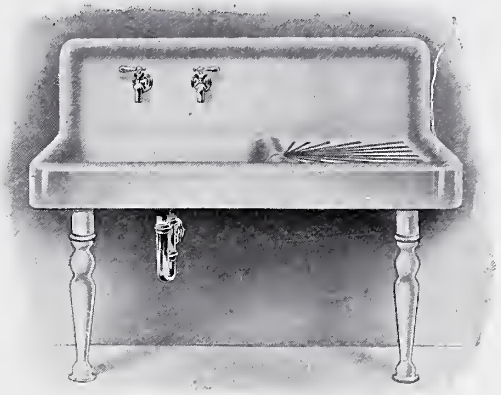
FURNITURE and DECORATIONS

DRAPERIES, UPHOLSTERIES, WALL COVERINGS:

Standard Textile Products Co., The, 320 Broadway, N. Y. C. "Sanitas" tinted, decorative and glazed; fast colors; sanitary. For private homes, hotels, auditoriums, institutions, etc.

ALPHABETICAL INDEX OF ADVERTISERS ON PAGE 52

"Southern Beauty"



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In every application of enameled plumbing equipment—bath, toilet, kitchen and laundry—whether in the home, hotel, office building, school or public building, "**Southern Beauty**" Ware meets all modern requirements.

Sanitation is assured where the "**Southern Beauty**" line is specified and at the same time the standards of usefulness and of pleasing appearance demanded by the architect are maintained.

An inspection of our catalog will give you an idea of the unusual qualities embodied in the "**Southern Beauty**" line. We shall be glad to mail it on request.

The Cahill Iron Works

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GLASS

American Window Glass Co., Pittsburgh, Pa.

GRATINGS

INTERLOCKED:

Mitchell-Tappen Co., 15 John St., N. Y. C.

HARDWARE

BUILDERS' HARDWARE:

Stanley Works, The, New Britain, Conn.

BUTTS and HINGES:

McKinney Mfg. Co., Pittsburgh, Pa.

Stanley Works, The, New Britain, Conn. Ball-bearing—steel, brass, bronze.

EXIT DEVICES:

Vonnegut Hardware Co., Indianapolis, Ind.

FIRE EXIT DEVICES:

Vonnegut Hardware Co., Indianapolis, Ind. Von Duprin devices.

GARAGE HARDWARE:

Stanley Works, The, New Britain, Conn. Garage door holders and garage door hinges.

SASH BALANCES:

Pullman Mfg. Co., Rochester, N. Y.

HEATING, VENTILATION PLUMBING

BLOWERS and EXHAUSTERS:

Buffalo Forge Co., Buffalo, N. Y.

BOILER FEED WATER PURIFYING APPARATUS:

Permutit Co., 440 Fourth Ave., N. Y. C.

DRINKING FOUNTAINS:

Cahill Iron Works, The, Chattanooga, Tenn.

FAUCETS:

Noscald Valve Co., 7 West 45th St., N. Y. C.

FILTERS, WATER:

Loomis-Manning Co., Philadelphia, Pa.

Permutit Co., 440 Fourth Ave., N. Y. C.

HEATING (Automatic Oil):

Steam Corporation, Chicago, Ill. Manufacturers of "Nokol" Automatic Oil Heaters.

HEAT REGULATING SYSTEMS:

Gold Car Heating & Lighting Co., 17 Battery Place, N. Y. C. Gold's thermostatic heat regulating system.

HEATING SYSTEMS:

Warren, Webster & Co., Camden, N. J.

HEATING SYSTEMS (Warm Air):

Farquhar Furnace Co., Wilmington, O.

LAVATORIES:

Cahill Iron Works, The, Chattanooga, Tenn.

MIXING VALVES:

Noscald Valve Co., 7 West 45th St., N. Y. C.

OZONATING EQUIPMENT:

Pitts & Kitts Mfg. & Supply Co., 50 Park Place, N. Y. C.

PIPE (Lead):

Eagle-Picher Lead Co., Chicago, Ill.

PIPE (Steel):

National Tube Co., Frick Bldg., Pittsburgh, Pa. "National" pipe, made in sizes ⅛ inch to 30 inches, o. d.; "National" pipe, sizes 4 inches and under, mechanically roll-knobbled (Spellerized); "National" welding, scale-free pipe, butt-weld pipe, sizes ⅛ inch to 3 inches, suitable for all plumbing purposes; "National" black pipe, "National" galvanized pipe, "National" ammonia pipe, "National" extra strong pipe, "National" double extra strong pipe, "National" pipe for elevator plungers, for columns and for piling.

Youngstown Sheet & Tube Co., Youngstown, O.

SHOWER RECEPTORS:

Noscald Valve Co., 7 West 45th St., N. Y. C.

SHOWER VALVES:

Noscald Valve Co., 7 West 45th St., N. Y. C.

SINKS:

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SINKS (Slop):

Cahill Iron Works, The, Chattanooga, Tenn.

STERILIZERS:

Barnstead Still & Sterilizer Co., Boston, Mass.

TANKS (Closet):

Cahill Iron Works, The, Chattanooga, Tenn.

TRAPS (Lead):

Eagle-Picher Lead Co., Chicago, Ill.

TRAPS (Radiator):

Dunham, C. A., Co., 1710 Fisher Bldg., Chicago, Ill.

TRAPS (Steam):

Jenkins Bros., 80 White St., N. Y. C.

HEATING, VENTILATION PLUMBING (Continued)

TUBS (Bath):

Cahill Iron Works, The, Chattanooga, Tenn.

TUBS (Laundry):

Cahill Iron Works, The, Chattanooga, Tenn.

URINALS:

Cahill Iron Works, The, Chattanooga, Tenn.

VALVES (Air):

Jenkins Bros., 80 White St., N. Y. C.

VALVES (Radiator):

Jenkins Bros., 80 White St., N. Y. C.

Monash-Younker Co., 121 West 42nd St., N. Y. C.

VALVES (Shower, Mixing and Anti-Scalding):

Noscald Valve Co., 7 West 45th St., N. Y. C.

VALVES (Steam):

Jenkins Bros., 80 White St., N. Y. C.

VALVES (Water Line):

Jenkins Bros., 80 White St., N. Y. C.

VENTILATORS:

Burt Mfg. Co., The, 77 Main St., Akron, O. Manufacturers of all types of ventilators, both stationary and revolving.

Globe Ventilator Co., Troy, N. Y.

WATER SOFTENING APPARATUS:

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WATER TREATMENT:

Permutit Co., 440 Fourth Ave., N. Y. C.

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(See Elevators and Hoists)

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ORNAMENTAL BRONZE AND IRON

Polachek, John, Bronze & Iron Co., 480 Hancock St., Long Island City, N. Y.

PAINTS, VARNISHES, STAINS

FINISHES, WOOD:

Minwax Co., 14 East 41st St., N. Y. C.

LEAD (Red):

Carter White Lead Co., Chicago, Ill.

Eagle-Picher Lead Co., Chicago, Ill.

LEAD (White):

Carter White Lead Co., Chicago, Ill.

Eagle-Picher Lead Co., Chicago, Ill.

LITHARGE:

Carter White Lead Co., Chicago, Ill.

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PAINT:

New Jersey Zinc Co., 160 Front St., N. Y. C.

Patton Paint Co., Milwaukee, Wis., Newark, N. J. Patton's "Velumina" oil flat wall paint.

PAINT (Steel Protective):

Barrett Co., The, 17 Battery Pl., N. Y. C. Branch offices in all large cities.

Dixon, Jos., Crucible Co., Jersey City, N. J.

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The Sherwin-Williams Company, 601 Canal Road, Cleveland, O. Sherwin-Williams Kromik Structural Steel Primer, Sherwin-Williams Metalastic Metal Protective Paints.

STAINS:

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Cabot, Samuel, Inc., Boston, Mass. Cabot's creosote stains, stucco stains, brick stains, Old Virginia white and Old Virginia tints.

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The Sherwin-Williams Company, 601 Canal Road, Cleveland, O. Sherwin-Williams Handcraft Stains, Sherwin-Williams Oil Stains, Sherwin-Williams Preservative Shingle Stains.

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Barrett Co., The, 17 Battery Pl., N. Y. C. Branch offices in all large cities.

Pitcairn Varnish Co., Milwaukee, Wis.

The Sherwin-Williams Company, 601 Canal Road, Cleveland, O. Sherwin-Williams Mar-Not Floor Varnish, Sherwin-Williams Scar-Not Interior Finishing Varnish, Sherwin-Williams Rexpar Varnish for exterior varnish work.

PERGOLAS

Hartmann-Sanders Co., Chicago, Ill.

PLASTER

(See Cement and Plaster)

PLUMBING

(See Heating, Ventilation, Plumbing)

REFRIGERATION

REFRIGERATING APPARATUS:

Automatic Refrigerating Co., Hartford, Conn.

Brunswick Refrigerating Co., New Brunswick, N. J.

Jewett Refrigerator Co., Buffalo, N. Y.

ROOFING

BARRETT SPECIFICATION ROOFS:

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Carey, Philip, Co., The, Lockland, Cincinnati, O. Carey flexible cement roofing—a roofing for all classes of buildings, flat or steep surfaces; concrete, tile or wood sheathing construction. Made of a flexible asphalt cement in sheets 36 inches wide by 36 feet long.

CANVAS:

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Hydrex Felt & Eng. Co., 120 Liberty St., N. Y. C.

ROOF CONNECTIONS:

Barrett Co., The, N. Y. C. Holt roof connections.

SHEET METAL:

American Sheet & Tin Plate Co., Frick Bldg., Pittsburgh, Pa.

New Jersey Zinc Co., 160 Front St., N. Y. C.

SAFETY TREADS

American Mason Safety Tread Co., Lowell, Mass.

SASH

(See Window)

SHADES, WINDOW

Stewart Hartshorn Co., New York, N. Y.

SASH CORD

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METAL CEILINGS:

Edwards Mfg. Co., The, 319-349 Eggleston Ave., Cincinnati, O.

SHEETS (Protected):

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SKYLIGHTS

ROLLED STEEL:

Lupton's, David, Sons Co., Philadelphia, Pa.

Robertson, H. H., Co., Pittsburgh, Pa. "Waugh" puttyless skylight.

STAINS

(See Paints, Varnishes and Stains)

STRUCTURAL STEEL

PRESSED STEEL CONSTRUCTION:

Truscon Steel Co., Dept. 68, Youngstown, O. Representatives in principal cities. "Kahn" pressed steel beams, joists, studs, plates, etc.

ALPHABETICAL INDEX OF ADVERTISERS ON PAGE 52

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AUTOMATIC REFRIGERATION

Modern buildings of all kinds, and particularly clubs, restaurants, apartment houses, hotels, hospitals and up-to-date residences, are not considered complete unless they are provided with efficient, economical refrigerating equipment.

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Metropolitan Life Insurance Company
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Specifications covering the proper use of this product appear on pages 227-228 of THE AMERICAN ARCHITECT Specification Manual.

The Automatic Refrigerating Company

Main Office and Works: **Hartford, Connecticut**

BRANCH SALES AND SERVICE OFFICES:

Atlanta
Baltimore
Boston
Chicago
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Los Angeles
Louisville
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New York City
Rochester
San Francisco
Seattle
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TELEPHONES

Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.

TERRA COTTA

TERRA COTTA (Architectural):

N. Y. Architectural Terra Cotta Co. Tel. Astoria 760.

TILE

(See Flooring and Roofing)

VARNISHES

(See Paints, Varnishes, Stains)

VENTILATION

(See Heating, Ventilation, Plumbing)

WALL BOARD

(See Stucco and Wall Board)

WATER- AND DAMP-PROOFING

Barrett Co., The, 17 Battery Pl., N. Y. C. Branch offices in all large cities.

Horn, A. C., Co., Bodine St., Long Island City, N. Y.

Hydrex Felt & Eng. Co., 120 Liberty St., N. Y. C.

Minwax Co., 14 East 41st St., N. Y. C. Waterproofing; damp-proofing; coatings, brick, cement and stucco; coatings, protective metal.

WINDOWS, METAL

Crittall Casement Window Co., Detroit, Mich. Solid steel and bronze windows for office buildings, banks, public buildings, churches, university buildings, hospitals, residences, stores, factory offices, etc.

Detroit Steel Products Company, Dept. 9, Detroit, Mich. Fenestra steel "Windo Walls" are made from Solid Rooled Steel Bars interlocked by patented Fenestra joints. Ventilators are equipped with adjustable, removable butts. Fenestra Gravity Cam Latch automatically locks ventilators when closed. Patented Channel Section gives ventilators double weathering.

Lupton's, David, Sons Co., Philadelphia, Pa.

Pomeroy, S. H., Co., Inc., 30 E. 42nd St., N. Y. C.

Truscon Steel Co., Dept. 68, Youngstown, Ohio. Representatives in principal cities. "United" steel sash in all types; horizontal and vertical pivoted sash, counterbalanced and counterweighted sliding sash, center pivoted and top hung continuous sash, steel and glass partitions, sliding and swinging partitions, sliding and swinging doors, casement sash of all designs.

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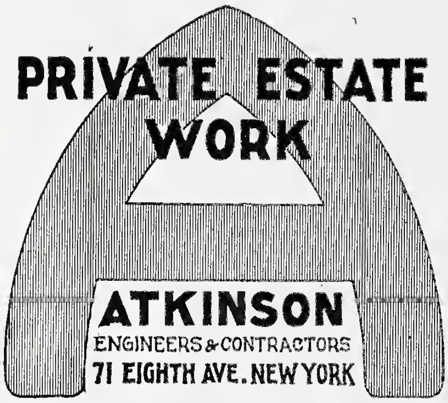

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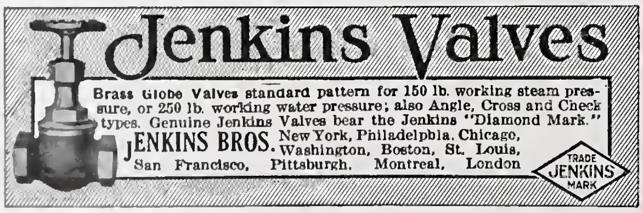

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PROPOSALS

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Pursuant to subdivision 8 of section 875 of the education law, sealed proposals for furnishing the labor and material required in the construction of the following school buildings located in the City of Buffalo, N. Y., are invited and will be received by the Board of Education at its office, 1401 Telephone Building, Buffalo, N. Y., until 2 o'clock P. M., January 19th, 1921, at which time said proposals will be publicly opened and read:

A—Primary School Building, District No. 21, located on Amherst St., at Park Lake Ave.
B—Addition to Elementary School No. 21, located on Hertel Ave., between Delaware Ave. and Camden Ave.
C—Elementary School Building, District No. 9, located on Poplar St., at Doat St.
D—Elementary School Building, District No. 1, located on Porter Ave., at Niagara St.
E—Addition to Elementary School No. 60, located on Ontario St., at Saratoga St.
F—Intermediate School No. 6, located on Northampton St., east of Fillmore Ave.
G—Intermediate School No. 2, located on Hertel Ave., at Shoshone St.
H—Intermediate School No. 7, located on Roslyn St. (extended), at Lang Ave.
I—Intermediate School No. 8, located on South Elmwood Ave., at Tupper St.
J—Intermediate School No. 9, located on Sherman St., at Lovejoy St.
K—Intermediate School No. 11, located on Moreland St., at Bailey Ave.
L—Intermediate School No. 12, located on Lorraine Ave., near Abbott Road.

Instructions to bidders and other information, together with plans and specifications for the three buildings noted under A, B and C above, may be procured on and after November 9th, 1920, from the office of the Associated Buffalo Architects, Inc., Room 40, No. 232, Delaware Ave., Buffalo, N. Y. Plans and specifications for the three buildings noted under D, E and F above, may be procured from the same source on and after December 1st, 1920; and plans and specifications for the remaining Intermediate School Buildings noted under G to L, inclusive, may be procured on and after December 15, 1920.

A deposit of Fifty Dollars ($50.00) will be required on each set of plans taken from the office of the Architects, which sum will be repaid upon return of said documents intact and in good condition to the Architects not later than February 1st, 1921.

To be entitled to consideration, the proposals must be made upon the forms provided by the Architects, which must be fully completed, and must be delivered to the Board of Education not later than 2 o'clock P. M., January 19th, 1921.

All bids must be without conditions inserted by the bidder or limitations by letter or otherwise.

Security to accompany bid must be furnished by all bidders as provided in bid form.

The Board of Education reserves the right to reject any and all bids.

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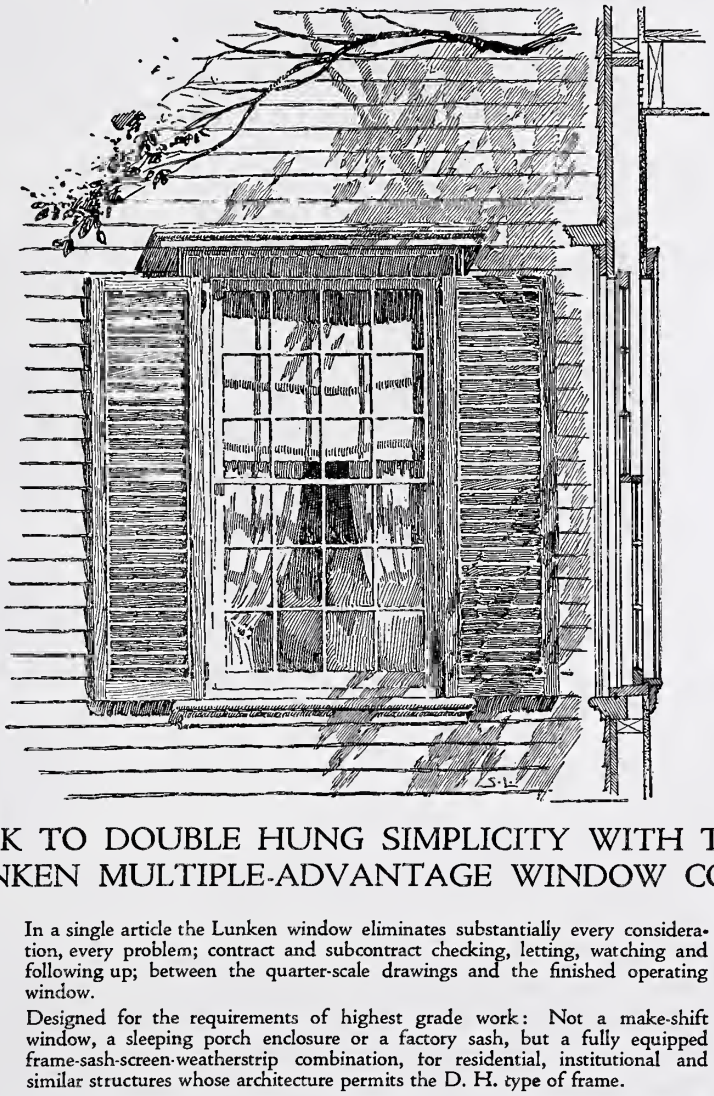

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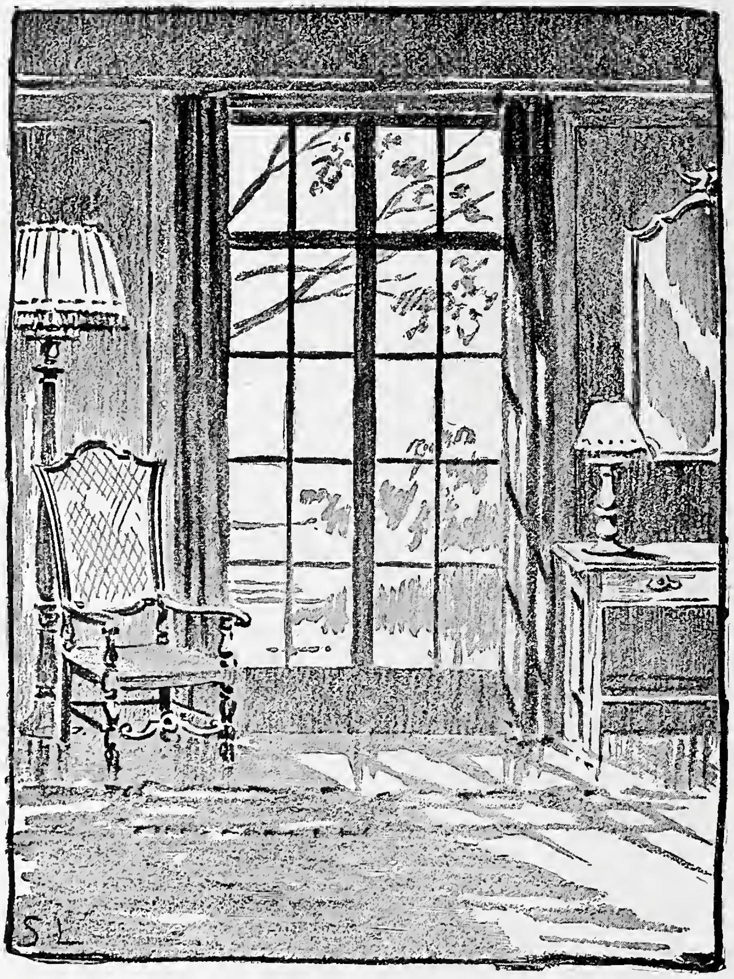

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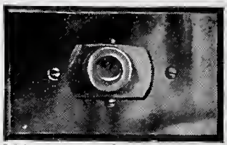
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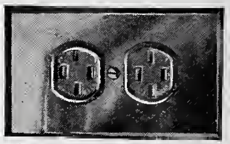
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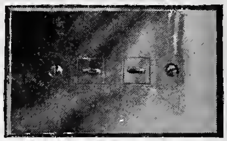
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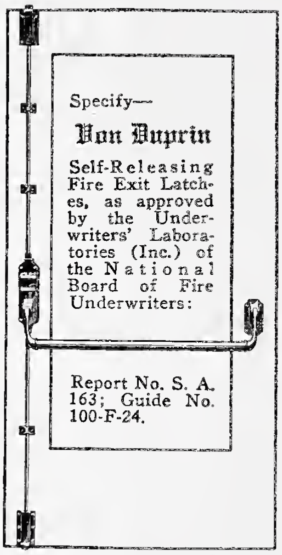

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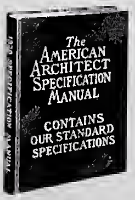
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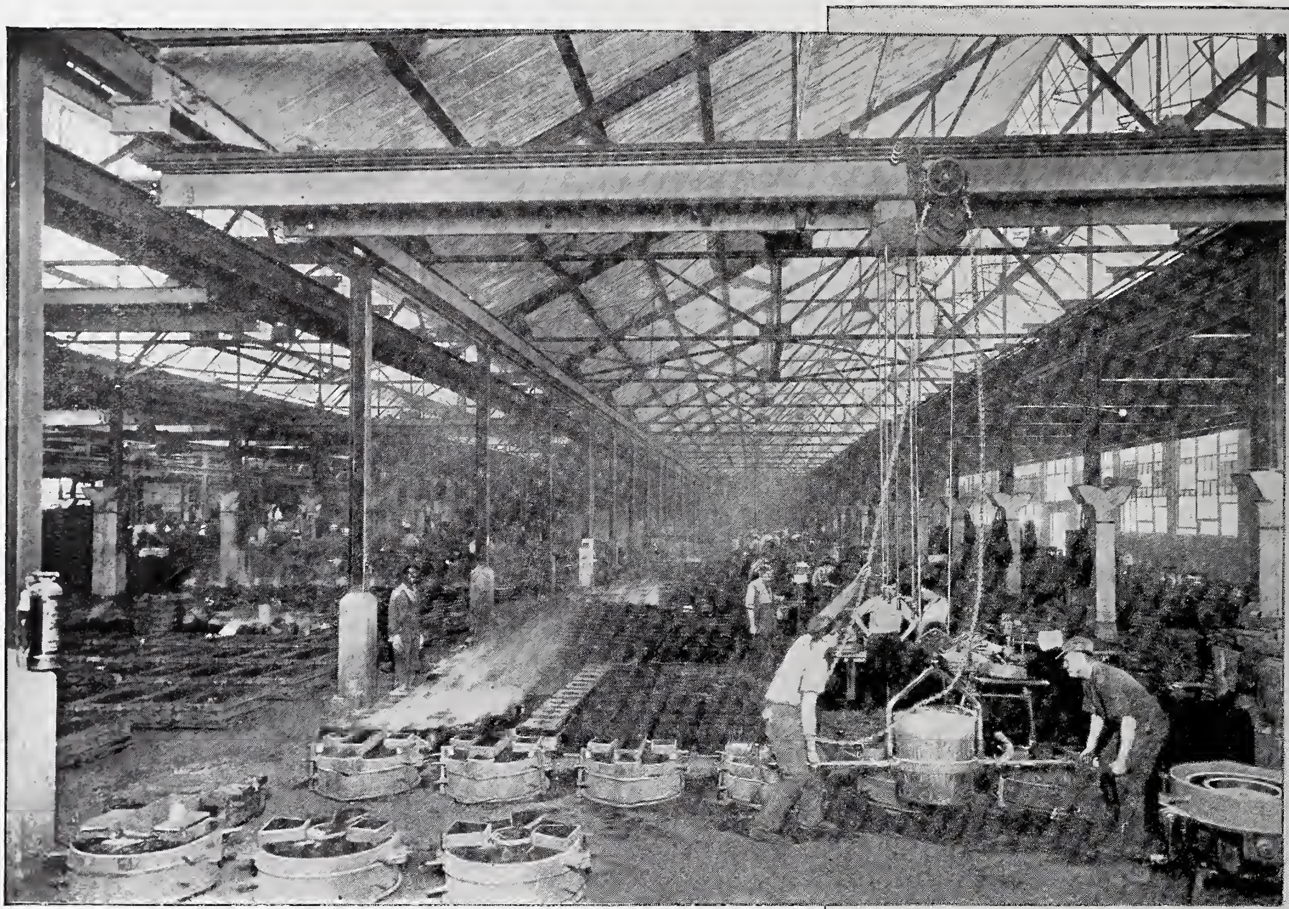

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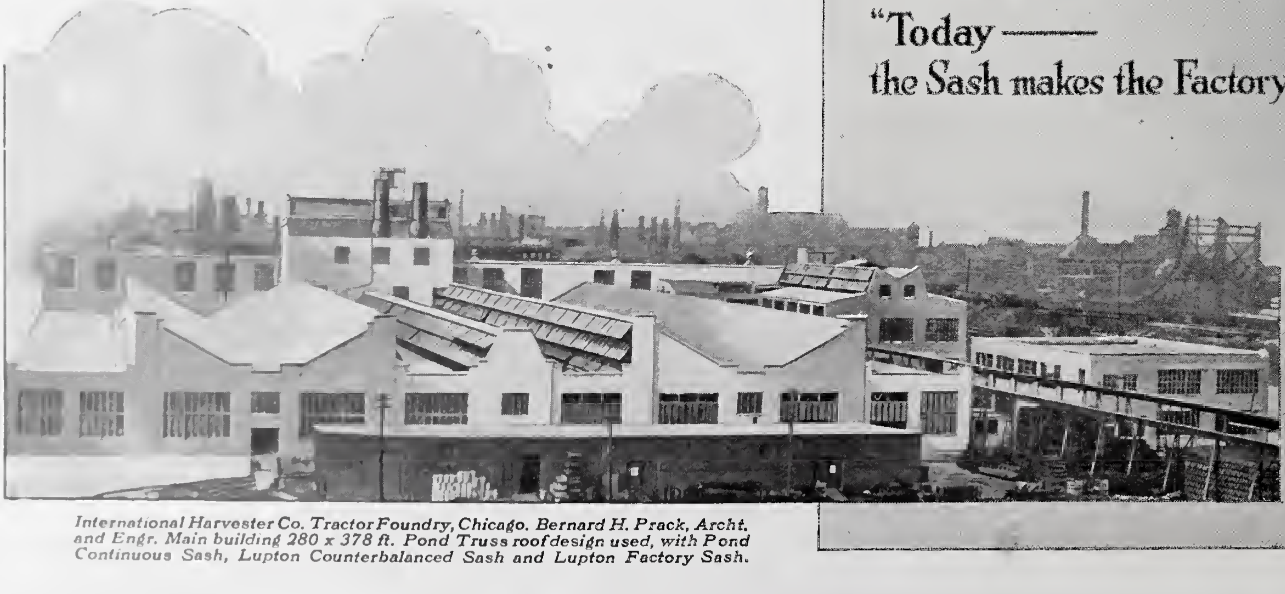

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Specify "Sherarduct" where electrical conduits of the highest quality are required.

Sherarduct
Sherardized
Rigid Steel Conduit

National Metal Molding Co.
GENERAL OFFICES: PITTSBURGH, PA.

A Critical Examination

of a wall built with "BRADFORD REDS" will reveal the many advantages of these famous face brick.

Aside from their superior quality, which is undisputed, the smooth velvet texture, perfection of manufacture, and distinctive shades of deep RED color, also excite the admiration.

BRADFORD REDS are also made in RUFF texture.

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write to the exclusive manufacturers

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is industrial health insurance.

Before making your recommendations for Heating and Ventilating apparatus, consider Buffalo.

Let our engineering department help you with your problem. Their vast fund of practical knowledge is at your disposal.

Write Dept. 11 *for our catalog—it is replete with valuable engineering data and table.*

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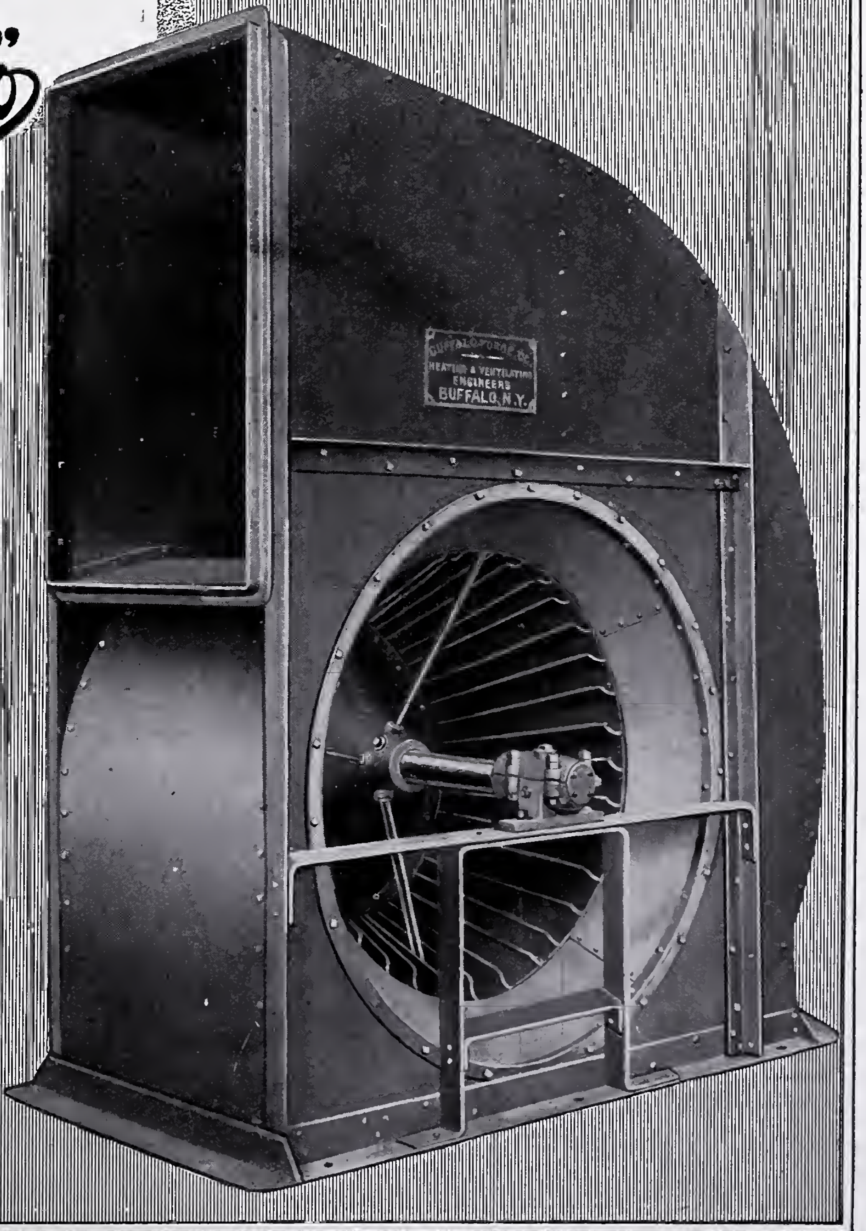

Showing the filter-bed passing through the Loomis Cutting Plate under the action of the washing current.

Loomis-Manning Filters

are different from
the ordinary filter

SAMPLES DISPLAYED WITH ARCHITECTS' SAMPLES CORP. NEW YORK CITY

Here's another difference.

Filtering Material can't escape. You wouldn't deliberately put sand in the water pipes, heating system, pumps, etc., of a building. But that's what you are inviting if a filter is not *mechanically* constructed to prevent the loss of the filter bed or beds.

A Loomis-Manning Filter differs from all others in this most important point, for the filter bed rests on a screen system which is "sand-tight" and prevents the passing out of the bed with the filtered water. It is a positive mechanical prevention. The fine sand or other material simply can't get through—and because of this fact we use only *one size* of filtering material throughout the entire bed so the *whole bed* does effective work.

Also a screen at the top of the filter stops the filtering material from wasting out of the filter when washing, no matter how vigorous a washing current is used.

Loomis-Manning Filter Distributing Co.

Main Office: 1425 South 37th Street, Philadelphia, Pa.

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Showing the bed "boiling" in the entire filter chamber. Every part of the bed is loosened up and cleansed.

Makes More Than a Good Impression

When a caller uses a Stromberg-Carlson Apartment house telephone system, he cannot fail to notice the elegance of the equipment. Better still is the quality of the service rendered—the commercial standard transmitters and receivers transmit all of the voice tones clearly and distinctly.

Stromberg-Carlson
Apartment House Telephone Systems

may cost more but are worth it. Once properly installed they require no more attention than an ordinary electric door-bell and can be relied upon for faithful service year in and year out.

Write our nearest office for Bulletin 6, prices and further information.

Stromberg-Carlson Mfg. Co.

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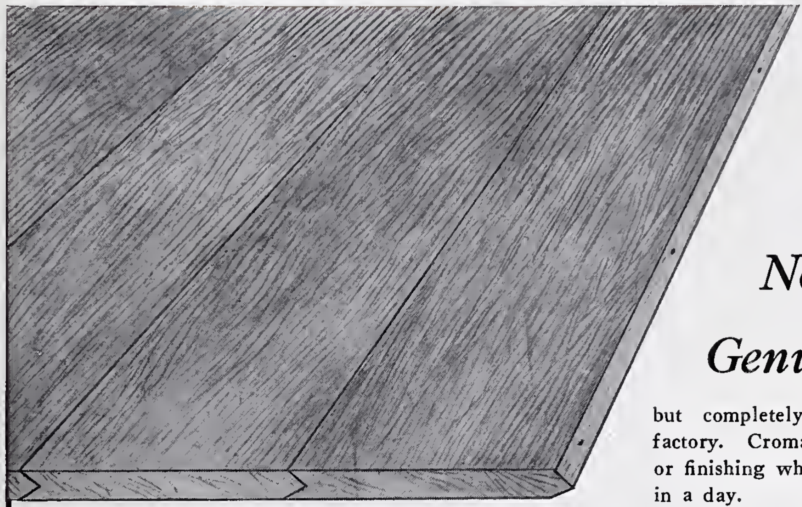

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Filled, varnished and waxed at the factory, and ready for use in a day to a room.

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READY TO USE WHEN THE LAST NAIL IS DRIVEN

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Genuine Oak Flooring

but completely finished—by patented machinery—at the factory. Cromar requires no hand scraping, sand-papering or finishing whatever. Two carpenters can floor one room in a day.

Machine finishing works many other improvements. For example, Cromar is finished far more beautifully and durably than is possible by hand. A moisture-proof coating on edges and back eliminates warping. Special tongue and groove edge provides for “blind” nailing without marring. Strap iron bound bundles prevent all damage and soiling in transit.

Write for literature and samples to get the whole story.

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For Future Generations

Architect: Jarvis Hunt VIEW OF MAIN WAITING ROOM

Specifications covering the proper use of this product appear on pages 107-108 of THE AMERICAN ARCHITECT Specification Manual, 1920 edition.

The Union Station at Kansas City, Missouri, was built with a view to the future as well as the present requirements of this growing city.

The Durability of the materials used in the building was therefore an important factor.

This naturally decided the Architect’s choice of BEST BROS. KEENE’S CEMENT for the ornamental plastering.

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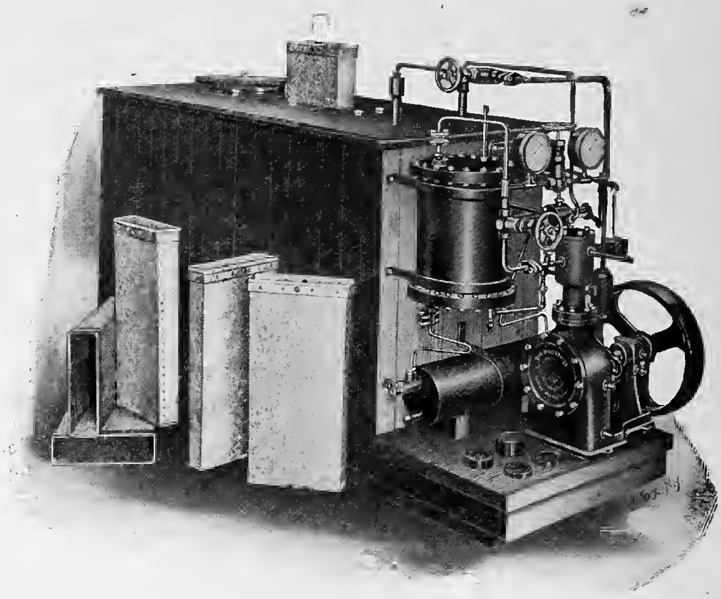
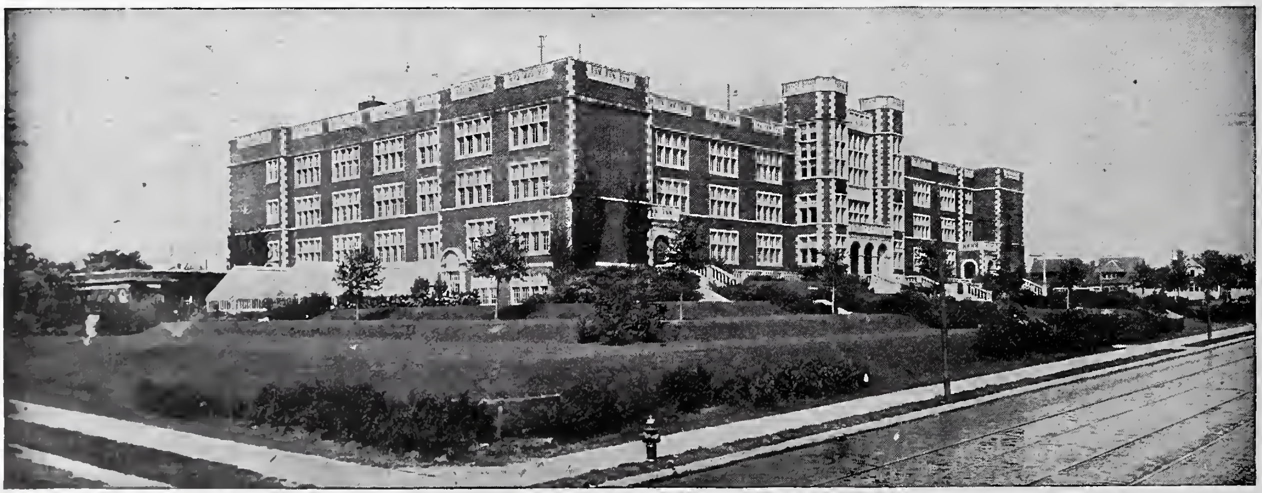


BRUNSWICK REFRIGERATING CO.
106 JERSEY AVENUE :-: :-: NEW BRUNSWICK, N. J.



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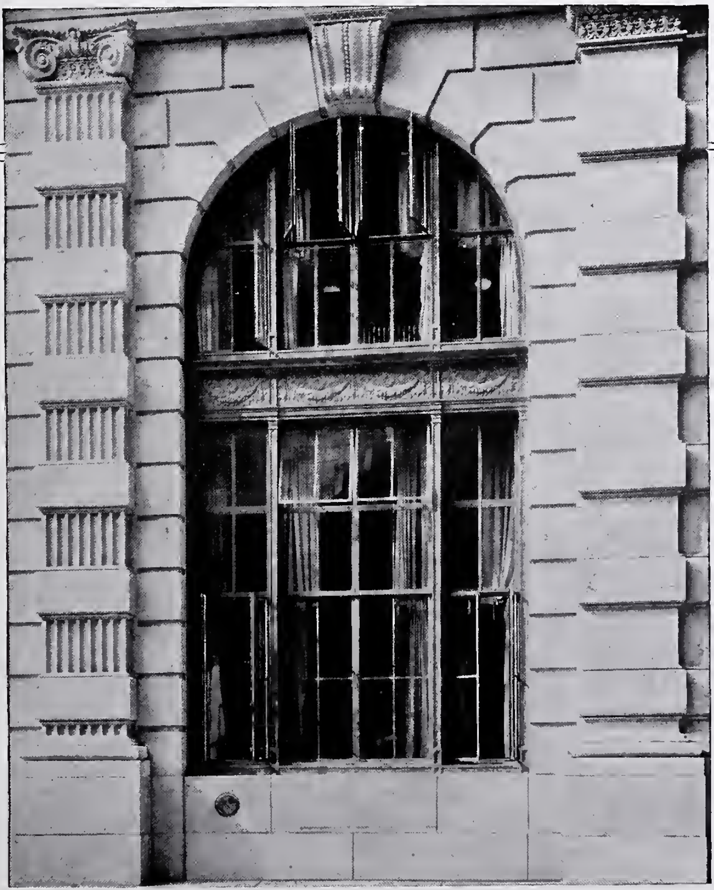

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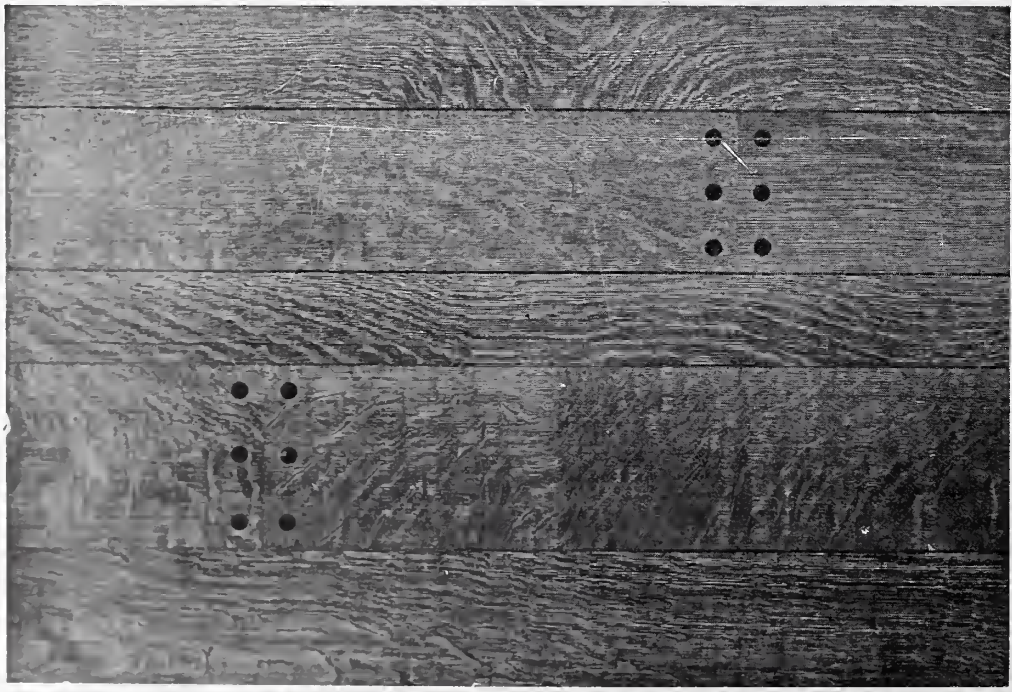

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Eagle Pure White Lead
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MANY architects make it a practice to specify Pure White Lead for enamel undercoating.

Eagle Pure White Lead in oil is especially adapted to this use because it is exceptionally fine, very opaque, a natural white in color and of such uniform texture that it brushes out to a smooth even surface.

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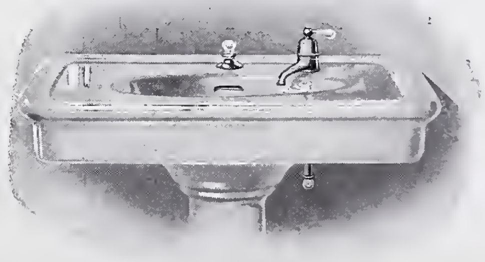

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Is a rare combination of a surface tinting with a sub-surface, waterproof impregnation. It is in, as well as on, the wall. And so persistently does it adhere that no paint-remover, no ordinary heat, can dislodge it. It does not crack, peel or flake. Its colors are non-fading. Its waterproofing effect is permanent.

Shall we send Bulletin 22, that goes into detail?

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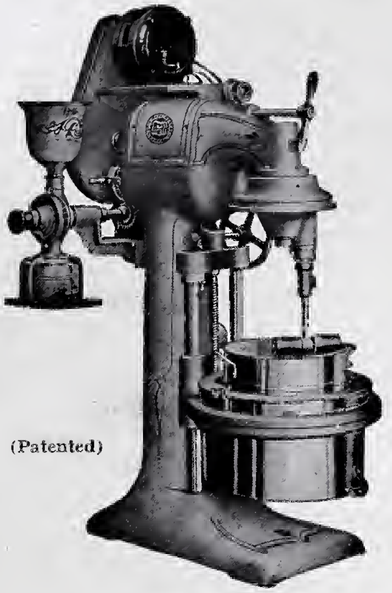

Read Type "D" Three-Speed Kitchen Machine
(Heavy Duty Model)

Worth Remembering
Page 239

of the American Architect Specification Manual, Volume 2, 1920 Edition. This book contains many useful pages of specifications, but of exceptional interest to the Architect is Page 239, which gives complete and reliable specifications for the Bakery and Kitchen Departments of Hotels, Hospitals, Institutions, Restaurants, Bakeries and other buildings.

Similar specifications have been used by leading Architects for several years; therefore, these specifications have met successfully the test of time and actual practice, proving beyond question their reliability and usefulness. Much labor will be saved and errors prevented if these standardized specifications are used, and it is suggested that Architects send for extra copies also requesting blue prints, data sheets and the Read Catalogue of Bakery Machinery.

Read Machinery Company
York, Pa.
MANUFACTURERS
Kitchen Machines and Bakery Outfits

Refrigeration Is Too Often Slighted

No architect would think of planning a residence, club house, hotel or hospital without making careful plans for heating, plumbing and lighting.

Proper refrigeration is equally essential to the health and well-being of those occupying the building but is not always given deserved consideration. It is therefore interesting to note how many leading architects are handling this situation.

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- Mr. L. C. Tiffany, Cold Spring Harbor, L. I.
- Mrs. L. Z. Leiter, Beverly Farms, Mass.
- Mr. John D. Rockefeller, Pocantico Hills, N. Y.
- Mr. John D. Rockefeller, Jr., New York.
- Mr. Robert W. Goelet, Seine-et-Oise, France.
- Mr. Charles M. Schwab, New York.

HOTELS
- Hotel Pennsylvania, New York.
- The Commodore, New York.
- King Edward Hotel, Toronto.
- Hotel Statler, St. Louis.
- Hotel Palliser, Calgary, Alta.
- Chateau Frontenac, Quebec.
- The New Homestead, Hot Springs, Va.
- Hotel Sinton, Cincinnati.
- Hotel Knickerbocker, Chicago

CLUBS
- Detroit Athletic Club, Detroit
- University Club, New York.
- Michigan Union, Ann Arbor, Mich.
- Jekyl Island Club, Brunswick, Ga.
- Larchmont Yacht Club, Larchmont.
- Lambs Club, New York.
- Cornell University, Ithaca, N. Y.

HOSPITALS
- Post Graduate Hospital, New York.
- New Bellevue Hospital, New York.
- Perkins Institute, Watertown, Mass.
- New Haven Hospital, New Haven, Conn.
- Buffalo City Hospital, Buffalo, N. Y.
- Boston Consumptives' Hospital, Mattapan, Mass.
- St. Luke's Hospital, New York.

OTHER INSTITUTIONS
- Grand Central Terminal, New York.
- Toronto Union Station, Toronto.
- Chamber of Commerce, Rochester, N. Y.
- Canadian Pacific Railway Co.
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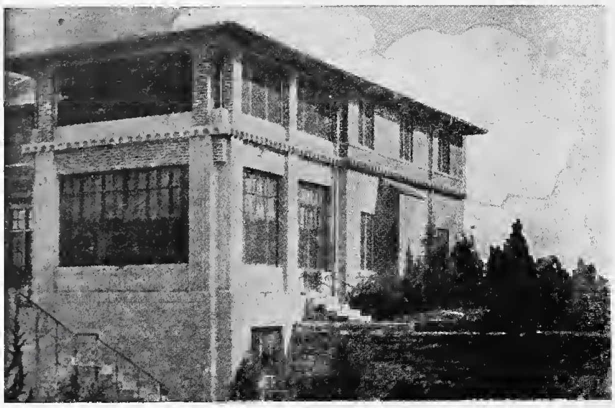

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An Architect knows—

that perfection of detail builds reputation. According as he values reputation, therefore, he plans perfection in even the smallest of appointments.

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For Sample Specifications, see page 234 of the 1920 American Architect Specification Manual.

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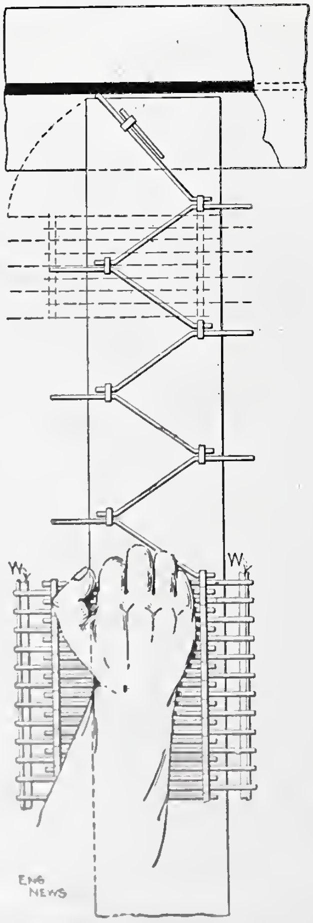

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One look at the job and he knows that the concrete is going to stay in place.

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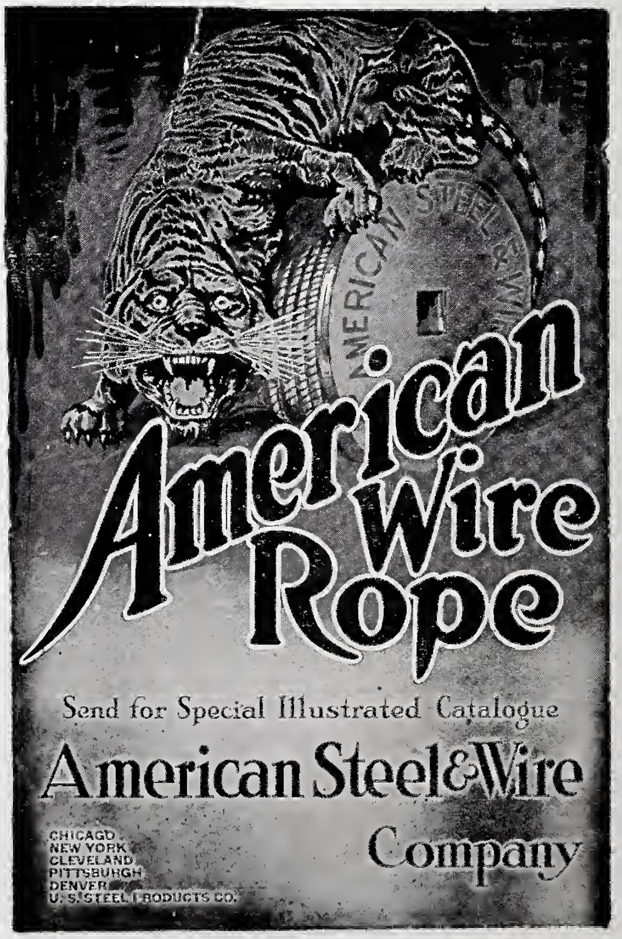

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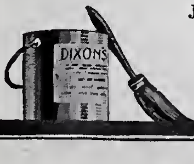

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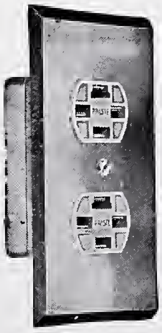

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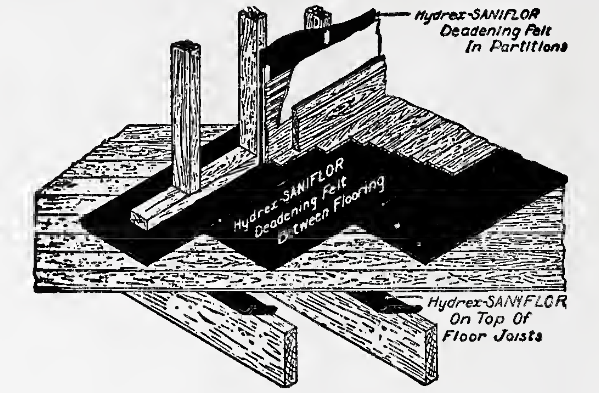
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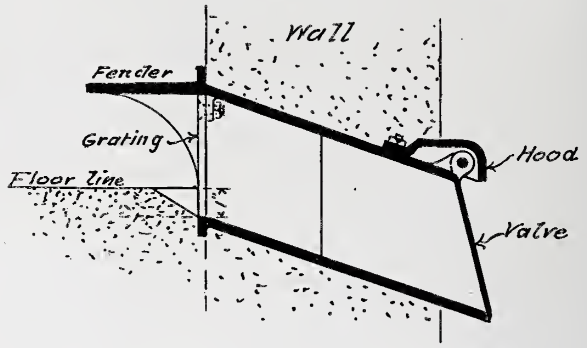
Scuppers



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Edwards' Metal Shingles are attractive, durable; water, wind and fire proof. There's a design to suit every taste. They are easily laid; the only tools needed being hammer and nails. And the patent interlocking Device provides automatically for expansion and contraction.

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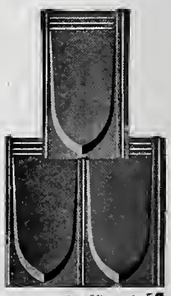

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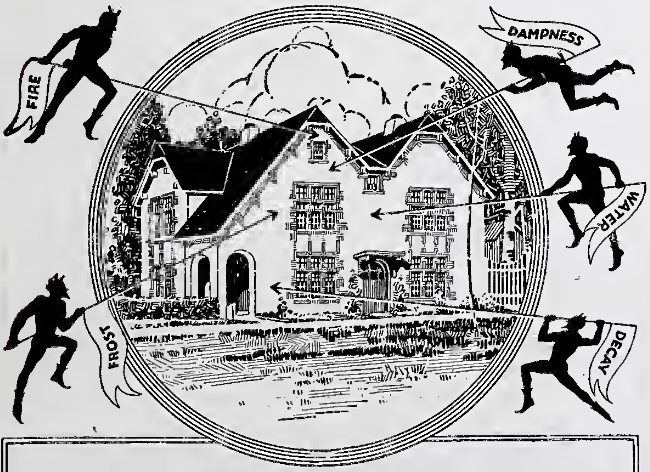

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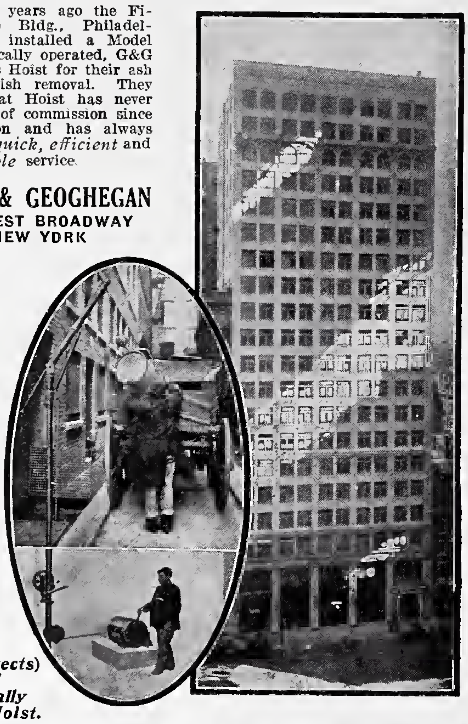

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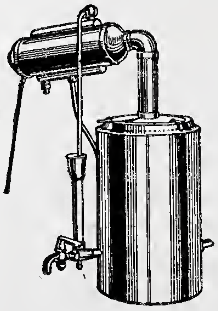

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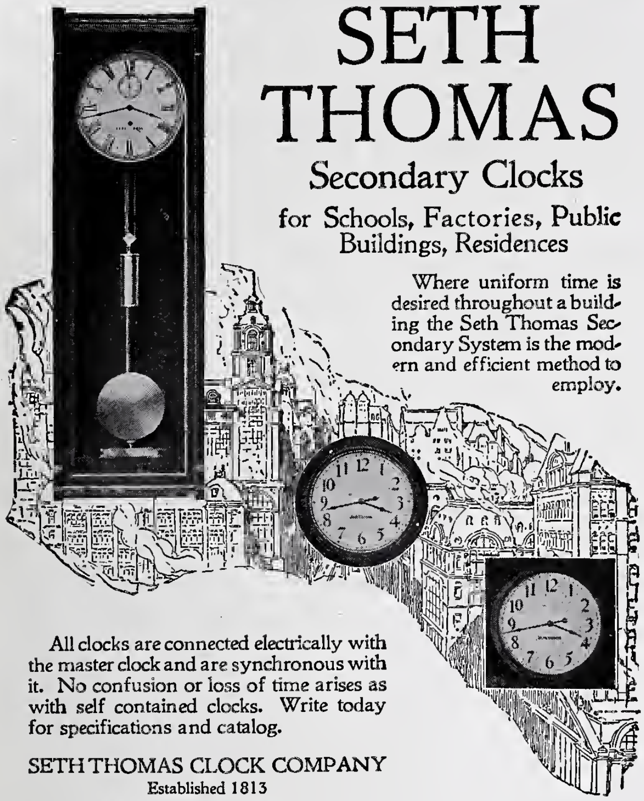

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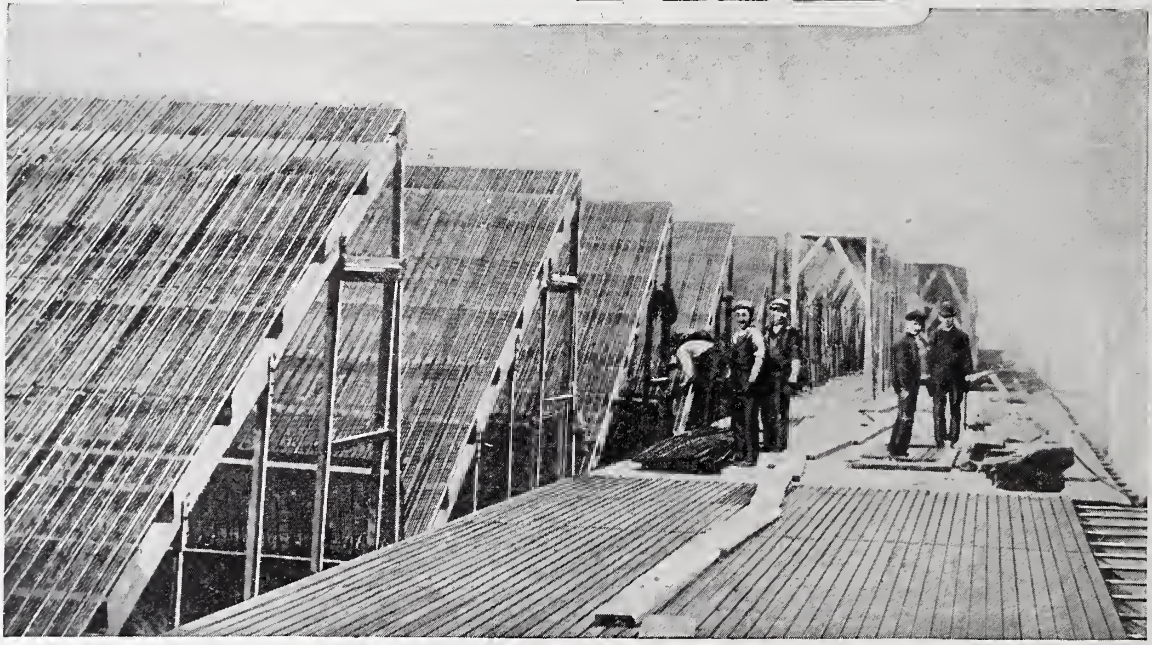

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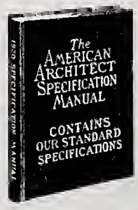
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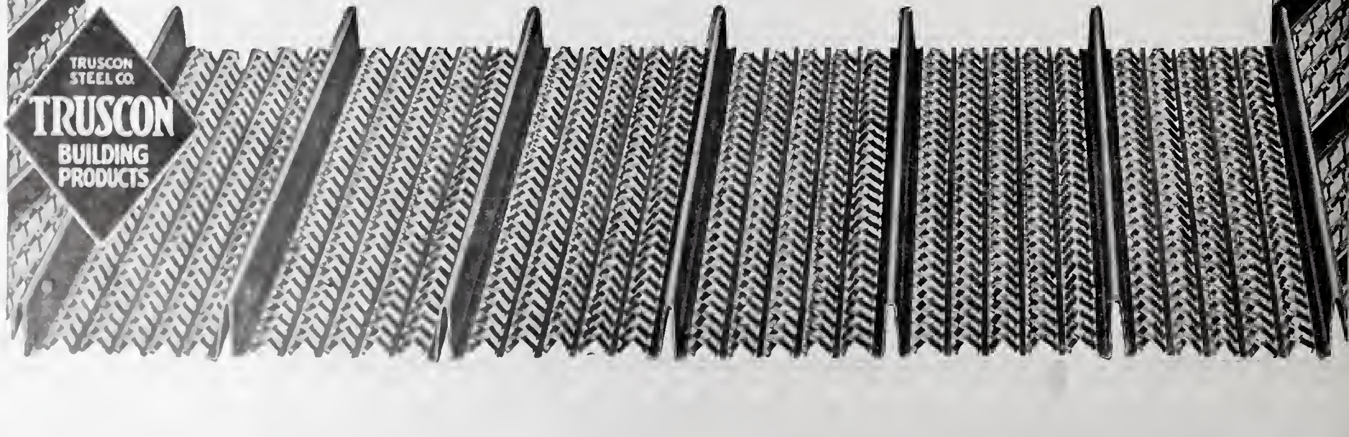

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